

# The Feasibility of Language-Literacy Instruction Facilitated by Preschool Classroom Volunteers

By

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### **Abstract**

This pretest-posttest study examined the effects of a professional development training on five volunteer instructors' (VI) utilization of language and literacy facilitation strategies within interactive storybook readings with low-income preschool children. The training specifically targeted the VIs' use of WH-questions, expansions, and references to story grammar elements (SGEs) with use of a corresponding visual aid. VIs participated in a three-hour training comprised of lecture, video models, role-playing, four opportunities to explicitly practice the target strategies, and four opportunities to receive immediate feedback from the investigator. The VIs led storybook readings that were video recorded for comparison prior to and after the training sessions (two pre-training, two post-training). The investigator analyzed the VIs' language and literacy strategy usage in the readings. The investigator compared the raw number of WH-questions asked, expansions of child responses or comments, the number of references (out of 20) to SGEs and use of the visual aid pre- and post-training. Analysis revealed after the training, four of the five VIs increased the number of WH-questions asked during the reading and one VI maintained a large amount of questions asked compared to pre-training readings. All VIs provided an increased number of references to story grammar elements (character, setting, problem, fixing problem, solution) in a variety of capacities (name, definition, book specific element, visual aid use) to reinforce the narrative concepts. VIs had less consistent increases in expansions of child responses or comments post-training. Results revealed the VIs generally increased their facilitation of language and literacy strategies after participating in a professional development training, suggesting utilization of volunteers as instructors may be a valuable area to explore, especially in low-income environments where children are at-risk for language and literacy delays in later schooling.

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## **Introduction**

In the United States, 44% of children nine years or younger live in low-income families and environments (Koball & Jiang, 2018). This percentage equates to about 15 million young children living in vulnerable circumstances, nationwide. Children living in low-income families often experience adversity such as food and housing insecurity, chronic stress, decreased parent interactions, and limited resources (Engle & Black, 2008; Sharkins, Leger & Ernest, 2017). These stressors often affect the overall nutrition, mental health, and well-being of all family members (Engle & Black, 2008). The health effects are even more detrimental to children developing in low-income environments as they can evolve into chronic undercurrents that, when combined with social and educational challenges of low-income environments, stifle development (Engle & Black, 2008).

## **Poverty and Development**

The challenges that children in low-income families experience affect all areas of child development including physical and mental health as well as communication, cognitive, social-emotional, and pre-academic skills (Engle & Black, 2008; Sharkins et al., 2017). The increased amount of stressful life experiences in early childhood years have even been linked to changes in brain development upon kindergarten entry (Luby, Belden, & Botteron, 2013). The effects of low-income childhood experiences are often lasting and follow children into school-age as low-income children are at-risk for lower achievement test scores, poor behaviors, and school dropout (Engle & Black, 2008). The health and developmental adversities faced by children in low-income families are linked to educational and social challenges later in life.

Children in low-income families enter school with a myriad of risk factors but are not always met with environments that can support their increased needs. State and local funding of

school districts affect the amount of resources provided to staff and students. The amount of resources and supports available contribute to student success. When examined nationally, education funding varied from state to state. In 27 states, school districts with higher rates of poverty received equal or less funding than those with low poverty rates (Morgan & Amerikaner, 2018). While receiving less funding is a concern, so is receiving equal funding as school districts serving students living in poverty need additional funding to provide equitable education. Because additional supports are needed, school districts must spend twice as much or more to educate a student in a low-income environment than school districts in more affluent areas spend on their students (Morgan & Amerikaner, 2018). In more than half of the United States, school districts with high poverty rates do not receive the funding to supply the supportive learning environments that at-risk students need.

When combined, the home and schooling environments of children in low-income families increase the risk of difficulties in educational achievement. What remains to be fully examined is how the effects of low-income environments can be remediated in early childhood to restore a positive developmental and academic trajectory. Funding will mostly likely remain an issue for low-income school environments, so it is worth examining how to implement low-cost solutions and supports such as the training of paraprofessionals, teaching assistants, and school volunteers to provide academic experiences.

### **School Readiness**

To offset the negative trajectories that living in poverty often sets, the Office of Head Start (OHS) developed the Early Learning Outcomes Framework for children ages birth to five (OHS, 2015) to serve as a curriculum development and school readiness preparation guide for early childhood programs across the country. The framework described school readiness as a

culmination of skills across five domains: approaches to learning, social-emotional development, cognition, perceptual-motor-physical development, and language and literacy development (OHS, 2015).

To be kindergarten ready, the framework suggested preschoolers need to have skills in approaches to learning to develop emotional awareness, behavioral regulation, and executive functioning skills in order to: navigate moments of conflict with peers; follow classroom rules and routines; maintain attention; and recall multiple step directions (OHS, 2015). Second, the framework suggested children need to develop the social-emotional ability to: form relationships with others; compromise; share; cooperate; and manage their feelings (OHS, 2015). Third, the framework stated children need cognitive skills in the areas of math and scientific reasoning in order to: understand numbers, operations, problem solving, and shapes; make observations in their environment; analyze results; and use measurement tools (OHS, 2015). In order to navigate these learning contexts and expectations, children also need to develop math and science-specific vocabulary to be able to discuss these processes with peers and teachers. Fourth, children were to have competencies in perception, gross and fine motor skills, as well as health, nutrition, and safety in order to safely and fully participate in school activities (OHS, 2015).

The last area of school readiness was an underlying theme embedded in each of the domains discussed above: language and literacy. It is also the domain most pertinent to this study. The Early Learning Outcomes Framework broke the language and literacy central domain into smaller preschool subdomains (OHS, 2015).

To achieve school readiness, preschoolers are expected to have language skills in the areas of attending and understanding, communicating and speaking, and vocabulary (OHS, 2015). In the area of attending and understanding, preschool children are expected to understand

and respond to communication and language from others. This includes attending to conversations, understanding and asking yes/no and WH- questions (who, what, when, where, why and how), and understanding and using complex sentences (OHS, 2015). In the area of communicating and speaking, preschoolers are expected to: use language to express their needs; clarify information when misunderstood; and follow social and conversational rules (OHS, 2015). In the vocabulary domain, preschoolers are expected to: understand and use a diverse number of words; learn and use domain-specific words (e.g., vocabulary of math and sciences); and understand word relationships (OHS, 2015).

To achieve school readiness, preschoolers are expected to meet literacy goals in the areas of phonological awareness, print and alphabet knowledge, writing, and listening comprehension (OHS, 2015). Preschoolers are expected to understand that verbal language is made up of smaller units of sounds and complete tasks such as rhyming and identifying beginning sounds in words. They should recognize book features (front, back, title) and identify letters and their corresponding sounds (OHS, 2015). Preschoolers are also expected to write in multiple contexts (write simple words/name and write left to right) (OHS, 2015).

Preschoolers are also expected to understand narrative structure through storytelling and retelling (OHS, 2015). This includes understanding the characters and main events within a narrative, as well as how events are sequenced and related to one another. Children should then be able to generate their own story with main events. For additional comprehension skills, preschool children should also be able to answer questions about stories that were read aloud with complete responses, including the ability to make predictions or inferences (OHS, 2015).

This framework is complex and detailed. As stated, early childhood programs need to create learning environments and utilize teaching strategies to allow all children achieve the

expectations in each of these areas of development. These skills, particularly those in the underlying areas of language and literacy, are needed for children to participate in relationships as well as social and academic environments in their school careers and then in adult life (OHS, 2015). These demands are high but so are the expectations for children entering school-age programs. To meet these expectations, preschoolers need the support of their family, educators, and community.

### **Relationship Between Language and Literacy**

The Head Start Early Learning Outcomes Framework (OHS, 2015) grouped language and literacy together because they are largely intertwined and overlapping. Language is described as receptive or expressive as well as oral or written. Receptive language is the comprehension of spoken or written language. Expressive language is the use of spoken language or written language (American Speech-Language & Hearing Association [ASHA], 2006).

Both oral and written language are interwoven within five domains: phonology, morphology, syntax, semantics, and pragmatics (American Speech-Language & Hearing Association [ASHA], n. d.). Phonology involves the understanding and use of a language's speech sound system. Morphology involves the understanding and use of the smallest units of language while speaking and listening as well as correctly reading and writing the grammatical features of written language. Syntax involves understanding and using sentence structure while listening, reading, speaking, and writing. Semantics involves the comprehension and use of words, word relationships, and meaning of language. Pragmatics involves understanding and using social aspects of language in conversation as well as understanding discourse while reading and conveying thoughts and ideas while writing (ASHA, n. d.).

Literacy, or reading and writing language, was embedded in each of the areas of language discussed above (ASHA, 2006). Language and literacy are interwoven and vital for participating in today's world. Being a part of language, emergent (early) literacy then begins at birth, in conjunction with language, and then grows with child development with the provision of explicit instruction. Children are exposed to print in books, shows, lists, magazines, signs and many other environment factors. Eventually, children combine their knowledge of speaking and listening with print concepts, thus beginning their understating of reading and writing (ASHA, 2006). Oral language skills in early childhood are generally predictive of later reading abilities (ASHA, n. d.). Other areas of language that involve reading and comprehension of text are inferencing, monitoring for comprehension, interpreting complex written language and using narrative text structure knowledge (ASHA, n. d.).

### **Narratives**

Narrative text structure knowledge and use involves understanding the macrostructure or main points of a narrative. Narrative language is often thought of as a bridge between oral and written language, deeming it an essential part of both language and literacy competence (Spencer, Petersen & Adams, 2015). Additionally, researchers have found relationships between early childhood narrative abilities and reading comprehension in elementary grades (Catts, Fey, Tomblin, & Zhang, 2002). These relationships are likely present because narratives include complex language such as causal and temporal markers and descriptive language (adjectives, adverbs) that is also found in oral and written academic language (Petersen & Spencer, 2016). The current Common Core State Standards (CCSS) by the National Governors Association Center for Best Practices (2010) also include narrative language expectations for young children. These expectations include proficiency in use of story grammar and complex language skills

involved with narration. In these standards, kindergarten students are expected to produce personal stories and/or retell stories that include story grammar elements including characters, settings, and story events (CCSS, 2010). The expectations align with those of the Early Learning Outcomes Framework for children ages birth to five (OHS, 2015). Since the establishment of these expectations, researchers have examined how to intervene or remediate both the personal narrative generation and the fictional retelling skills of children who are at-risk for or have delays in this area prior to kindergarten.

Hayward & Schneider (2000) examined narrative retelling skills in preschool and kindergarten students with language impairments pre- and post-intervention. The intervention involved explicit instruction of story grammar elements in small groups through repeated exposure to stories, role-playing, and story retelling. Researchers examined the number of story grammar elements present and the complexity of language in story retells and found children made statistically significant gains within both variables post-intervention.

Researchers McCabe, Boccia, Bennett, Lyman, & Hagen (2009) discussed the effects of two pretest-posttest intervention studies that targeted narrative language skills of diverse preschoolers. In the first study, children in the treatment group participated in 26 sessions where the researchers prompted the children to generate personal narratives, expanded on their stories, asked questions, and read the stories back to the children. In the second study, the same procedures took place but with the addition of pictures added to represent the parts (beginning, middle, and end) of the respective stories. Both studies found that the children in the treatment groups exhibited gains in the quality for personal story generation as well as gains in receptive vocabulary than the children in the control groups (McCabe et al., 2009).

In another narrative language intervention study, authors Brown, Garzarek, and Donegan (2014) examined the narrative language skills of three preschoolers both pre- and post-intervention. The researchers used fictional stories to teach story grammar elements as well as picture icons to aid in story grammar comprehension. Within the intervention, the participants retold the narratives while incorporating story grammar elements. Comparison of pretest-posttest storytelling revealed the children made gains in their abilities to retell narrative events and maintained results after intervention.

The impact of narrative language interventions on preschool children's comprehension and use of story grammar elements has also been examined within an approach called Story Champs (Spencer & Petersen, 2012a). This approach provides SGE (story grammar element) and language instruction to promote later reading skills in young children. Story Champs teaches the macrostructure of fictional and personally relatable narratives while utilizing five pictures depicting each story's SGEs. Within studies using Story Champs, researchers explicitly taught the SGEs within the pictured story contexts then prompted children to retell. Over time, the visuals were faded for the children to attempt to independently include SGEs in their own stories.

Spencer and Slocum (2010) examined the impact of Story Champs delivered intervention to four preschool children with delayed language. While in intervention, the children retold modeled stories and were prompted to generate personal stories over 15-minute sessions, four times a week. The children in the study included more SGEs in their narrative retells and personal story generations, post-intervention. The same results were found by Weddle, Spencer, Kajian, and Petersen (2015) who provided Story Champs narrative intervention to seven English Language Learner (ELL) preschoolers. After participating in the intervention, all the children

made gains in their respective narrative SGE use and language skills during narrative retells and personal story generations.

Spencer, Petersen, Slocum, and Allen (2015) examined the use of Story Champs instruction within four Head Start classrooms in a whole classroom approach. The researchers compared pre, post, and follow-up results, and found children who received the intervention were able to retell fiction and stories with relatable themes with more complex story grammar than the control groups. Little change was present in personal narrative generation skills. Researchers concluded the whole classroom approach yielded too low of instructional dosage and retell opportunities. Spencer, Peterson, and Adams (2015) followed-up with another study using the same whole group approach and found their nine-week intervention increased the language complexity and narrative retells of at-risk preschoolers.

Results from existing narrative intervention studies suggest preschoolers who are typical, culturally and linguistically diverse, and those at-risk or with language impairments preschoolers can retell and produce narratives that contain fairly complete story grammar episodes when provided explicit instructional support. Therefore, it is possible to help children at-risk for delays in language and narrative skills meet the narrative language expectations for kindergarten as determined by the CCSS (2010). Additionally, it is possible to make an impact with minimal, but high-quality, instruction or intervention (Petersen & Spencer, 2016).

### **Early Childhood Experiences Impacting Language and Literacy Development**

The Head Start Early Learning Outcomes Framework (2015) discussed the language and literacy skills needed for preschool children to successfully participate in school-age programming but it did not describe how and where children gain the skills. The type of

environments that a child participates in prior to kindergarten are vital factors in the acquisition of language and literacy skills.

In 2015, data collected from the Early Childhood Program Participation Survey (ECPPS) by the 2012 National Household Education Surveys Program revealed care information about children ages birth to five. The data from the surveys were weighted and over seven thousand surveys represented over 21 million children nationally (Mamedova & Redford, 2015). The survey revealed more than half of young children in the US (60 percent) attended a non-parent care arrangement at least once a week. Non-parent care was comprised of center-based, relative, and in-home care by someone other than a relative (Mamedova & Redford, 2015). The remaining 40 percent of young children in the US were primarily care for in the home by parents (Mamedova & Redford, 2015).

The home has been reported as powerful place to develop children's early language and literacy skills. When parents and caregivers are attentive to their child, they can provide a variety of interactions with the child in conversations and play that promote language and literacy development (Phillips et al., 2017). Though most parents are not formally trained in early education, the ECPPS reported parents provide a variety of early literacy routines and experiences within the context of the home (Mamedova & Redford, 2015). The survey revealed 98 percent of parents taught their children early learning concepts (letters, words, and numbers) within the home. Additionally, over 80 percent of parents completed early learning activities with their children (reading, singing, telling stories, and making crafts) (Mamedova & Redford, 2015). Creating an environment in the home that is rich with access to early literacy is powerful. Parental or caregiver interactions such as providing library visits, reading to children, and

offering exposure to print, rhyme, and vocabulary have been connected to children's success with literacy and language later in development (Farver, Xu, Eppe, & Lonigan, 2006).

The language and literacy learning experiences described above often differ from those of children in low-income families. Children living in poverty are more likely to be cared for in the home than receive center-based care (Dowsett, Huston, Imes, & Gennetian, 2008). However home-based care in low-income communities is not always as conducive for learning and development. The stress of poverty, presence of violence, and poor community conditions create less opportunities for children to experience safe and stimulating learning experiences outside the home (Phillips et al., 2017).

Additionally, if a child is receiving in-home care, their parent or caregiver interactions may not be facilitating literacy development. Parents in low-income families less likely to model reading and exploration of books and less likely to provide shared reading interactions (Storch-Bracken & Fischel, 2008). Children from low-income households have less overall exposure to literacy-based activities such as shared reading due to decreased book ownership (Storch-Bracken & Fischel, 2008). When considering language, children from low-income families have been found to have less exposure to spoken words and less caregiver interactions than their higher income peers (Gilkerson et al., 2017; Hart & Risley, 1995).

The differences in socioeconomic status (SES) and exposure to early learning environments place low-income children at-risk for delays in a variety of areas of development and later academic achievement (Engle & Black, 2008; Sharkins et al., 2017). For the purpose of this study, the review will largely discuss the effects of poverty on the school readiness skills involving language and literacy.

Kindergarteners from low-SES families have been reported to score lower on early reading tests when compared to their middle-high SES peers and this difference continues as children entered first grade (Snyder, DeBrey, & Dillow, 2018). A child who enters kindergarten behind in language and literacy development is at-risk for never overcoming the gap between themselves and their peers (Pollard-Durodola et al., 2011). The persistence of the achievement gap sets a negative trajectory for their children in their later school career (Pollard-Durodola et al., 2011). The achievement gaps are usually attributed to the limited experiences and learning opportunities of low-income children (Engle & Black, 2008). As stated in the Head Start Early Learning Outcomes Framework (2015) by age five, preschoolers are expected to have strengths across developmental areas to be prepared for school success. Early childhood learning environments must then be prepared to meet these standards.

Center-based preschool care provides children within early language and literacy exposure and instruction in a more formalized manner. One of the benefits of receiving center-based care is teacher language. Early childhood teachers are often trained to use language and routines that prompt interactions and growth during classroom activities such as free play or book reading (Phillips et al., 2017). These types of language-rich environments predict preschool literacy growth into kindergarten.

For low-income children and families, Head Start and Early Head Start are national center-based entities that support the early learning, health, and well-being of low-income children, birth to five, and their families. There are nearly 1,700 public and private entities under the Head Start umbrella (Head Start Program Facts [HSPF], 2018). These programs served over one million children and pregnant women in 2017 and, out of this number, 96% of the preschoolers enrolled attended center-based programs (HSPF, 2018). These preschool programs

are designed to provide language and literacy rich environments to promote learning and later school readiness for at-risk students (HSPF, 2018).

When comparing the types of environments to one another, children who participated in center-based care during their preschool years often scored higher on reading and language measures at kindergarten entry than their peers who had been cared for by parent or relatives during preschool years (Rathbun & Zhang, 2016). Additionally, children in center-based care participated in routines and academic curriculum and interacted with peers more frequently than children in home-based care (Dowsett et al., 2008). However, large class sizes and classroom management demands in center-based environments suggested children in that setting often received less individual attention and instruction, both of which being important in individual child development, than children who received in-home care (Dowsett et al., 2008).

### **Role of Early Education Experiences on Early Language and Literacy**

Increased awareness of the long-term effects of adversities in low-income families on language and literacy development has led researchers and educators to pursue ways to alleviate the impact of poverty on development for children in low-income communities. This exploration led to the development of nationwide childcare and preschool programs such as Early Head Start and Head Start (OHS, 2018). Evidence suggests the provision of quality preschool programming in early childhood has strong effects on language and cognition by kindergarten entry (Engle & Black, 2008), therefore Head Start entities have been working to provide just that since their founding in 1964 (Head Start Timeline, 2019).

To meet the language and literacy domain standards suggested by the Head Start Early Learning Outcomes Framework (OHS, 2015) and alleviate the risk-factors of poverty, many early childhood programs use curriculums that embed a variety of adult and child-directed

language and literacy experiences with book exploration, read alouds, and the development of subsequent narrative skills in preschoolers. The Creative Curriculum (Dodge, Colker, & Heroman, 2002) and High/Scope (Hohmann & Weikart, 1995; Hohmann, Banet, & Weikart, 1979) programs are widely used in Head Starts and other preschool programs across the country (Phillips et al., 2017). Both curriculums target the whole child with intensive focus on math and literacy development, and when implemented with fidelity, yield positive gains in child outcomes (Dodge et al., 2002; Hohmann & Weikart, 1995; Hohmann et al., 1979).

In order to meet the needs of at-risk students and increase their school readiness skills in conjunction with these curriculums, many researchers have investigated how to utilize evidence-based strategies that reliably yield improved student outcomes in low-income environments. Much of the research in the areas of language and literacy skill promotion have involved strategies within the book reading experiences of children.

### **Shared Storybook Reading vs Dialogic Reading vs Interactive Storybook Reading**

A large body of evidence exists behind strategies conducted within shared storybook readings including the later benefits and gains in child development (Morgan & Meier, 2010). Overall, evidence supports positive associations between storybook reading experiences and the improvement in oral language outcomes of children across various SES and cultural/linguistic backgrounds (Morgan & Meier, 2010; National Early Literacy Panel, 2008).

A variety of book reading approaches have been utilized in the research. A review by Trivette and Dunst (2007) compared three types of reading interventions appropriate for preschool age children including shared storybook reading, dialogic reading, and interactive shared storybook reading. In this review, dialogic reading was defined as a reading experience where the adult allowed the child to take the role of storyteller through adult-posed questions and

prompts. This method involved the use of adult strategies that increased child participation and modeled methods for comprehending information within the story (Trivette & Dunst, 2007). Interactive shared storybook reading was another experience where the adult led children to engage with the book material. This method used a variety of engagement techniques before, during, and after the book reading experience (Trivette & Dunst, 2007). Shared storybook reading experiences were described as adults reading books without prompting interactions from the children, but with more focus on retelling after repeated readings (Trivette & Dunst, 2007). The types of reading experiences mainly differed in the level of child involvement. Generally, the dialogic reading approach included the largest amount of child involvement and the shared storybook reading involved the least.

Thirteen studies involving all three storybook reading methods were examined by Trivette and Dunst (2007). A majority of the children involved in the studies were four to five years-old and were from low-income families. All thirteen studies took place within centers or preschools. Generally, the review found that each of the reading intervention methods were effective, but greater improvements in child outcomes were seen within the studies that sought to facilitate more active involvement of the children, therefore, the researchers suggested the two most effective interventions were dialogic reading and interactive shared book reading (Trivette & Dunst, 2007). Both methods included a variety of engagement and prompting strategies that promoted active involvement in the readings, including asking WH-questions (who, what, when where, why, how) about the story content, prompting descriptions of the book pictures, and expanding upon children's comments or responses (Trivette & Dunst, 2007). Other findings included children aged four to five years best benefited from the interventions, particularly those

that lasted 15 minutes or less. The review found the quality of the readings to be more important than the sheer amount of book reading experiences (NELP, 2008; Trivette & Dunst, 2007).

### **Training Parents and Teachers to Use Storybook Reading Strategies**

Interactive reading strategies such as WH-questions and expansions are successful language-promoting tools, even across facilitator types. A meta-analysis conducted by Towson, Fetting, Fleury, Abarca (2017) examined twenty-six studies that sought to train parents and teachers how to use dialogic reading strategies. Seven of the 26 studies focused on adult learning of the strategies as the dependent variables. Six of the seven studies reported significant increases in the parents' or teachers' use of WH-questions during storybook readings. Various studies also reported increases in provision of expansions or moments when the facilitator repeated the child's language and added additional information to create a longer, more complex utterance. Within these studies, expansions were successfully taught to adult facilitators, teachers, or parents and yielded positive effects on child language (Reese, Leyva, Sparks, & Grolnick, 2010; Yoder, Spruytenburg, Edwards, & Davies, 1995).

The format of trainings reviewed by Towson et al. (2017) ranged from face to face sessions, partial video components, or sessions that were comprised entirely of video training. Within these trainings, 73% included modeling of dialogic reading strategies and 53% include practicing of strategies through role-playing (Towson et al., 2017). The length of training sessions ran from 15-minutes to 1.5 hours. The types of sessions were on a continuum ranging from one-time workshops to longer-term experiential learning. The number of sessions ranged from 1-15 total number of training sessions with majority having 0-2 training sessions (89%), and a few having 3-15 sessions (11%) (Towson et al., 2017). The researchers in 43% of the studies examined did not report their implementation of any type of follow-up training or

support. In general, the studies reported improvement in child outcomes, but with little to no follow-up for adult interventionists. It is hard to determine whether the interventionists could have continued to improve their use of dialogic reading strategies with additional training (Towson et al., 2017). Overall, the analysis conducted by Towson et al., (2017) found variations in training delivery models, and not all were geared toward methods that best serve adult learning (e.g., training only consisted of receiving a handout or watching a video model).

Comparatively, there is less literature on the use of parents or teachers as facilitators of narrative instruction. Low-income parents have been trained to promote narrative skills in preschoolers by reminiscing on life events with specific language facilitation skills such as asking WH-questions and providing expansions (Reese et al., 2010). These reminiscing activities have resulted in increased quality of children's story retell narratives (Reese et al., 2010). A majority of research has been conducted by researchers that act as the interventionists with support from teachers (Spencer, Petersen, & Adams, 2015; Spencer & Slocum, 2010; Weddle, Spencer, Kajian, & Petersen, 2015). Additionally, the purpose of these studies was to explore the effectiveness of interventions on preschoolers' narrative retells through structured story picture programs rather than within children's storybooks.

### **Adult Learning Methods**

Effective early education programming relies on evidence-based strategies but also relies on quality instructors and educators. Within a synthesis of adult learning methods, Trivette, Dunst, Hamby, & O'Herin (2009) examined ways to best cater to adult learners who are serving both adults and children within in-service trainings and professional developments. The synthesis examined the effectiveness of six adult learning method characteristics including: 1) introducing new information to learners (e.g., lectures), 2) illustrating/demonstrating new information (e.g.,

role-playing, videos, 3) practicing skills (e.g., application of skills), 4) evaluating skills (e.g., measure strengths/areas to improve), 5) reflecting on performance (e.g., discussion), and 6) monitoring mastery of skills (e.g., assessment).

The review (Trivette et al., 2009) determined the most effective element of adult learning was the incorporation of multiple learning methods into trainings including active participation, large amounts of self-assessment for trainees, and instructor assessment of performances. Additionally, it was recommended that training sessions include a small number of participants who participate in multiple training sessions over a period of time. This format allows trainees to have a variety of opportunities for individualized instructor attention as well as multiple opportunities for processing and reflection on performance. Overall, the researchers suggested professional developments and in-services for adults serving either children or adults, should use a combination of adult learning methods to allow trainees to receive guidance, feedback, and deeper understanding of the content they are learning (Trivette et al., 2009).

### **Use of Additional Adult Instructors**

When implemented with fidelity, preschool curriculums and language/literacy intervention programs for at-risk children yield positive gains in child outcomes (Dodge et al., 2002; Hohmann & Weikart, 1995; Hohmann, Banet, & Weikart, 1979). However, when examining the quality of language and literacy instruction in low-income preschool classrooms, Justice, Mashburn, Hamre, & Pianta (2008) found teachers used few high-quality language strategies that are known to aid language development including modeling vocabulary words and definitions, asking questions, and expanding child utterances. Additionally, very few teachers offered high-quality, explicit instruction of early literacy skills. Most teachers in the study adhered poorly to the fidelity of their literacy and language curriculums, resulting in

environments that were less conducive to supporting at-risk children's literacy and language development than originally intended (Justice et al., 2008).

Teacher's low adherence to curriculum procedures can be associated with a variety of factors but may be related to increased demands placed on preschool educators, especially teachers educating children from low-income backgrounds. Head Start teachers serve children who have an increased amount of emotional and behavioral difficulties; therefore, teachers spend an increased amount of time working with children in need of extra support (Buettner, Jeon, Hur, & Garcia, 2016; Whitaker, Dearth-Wesley, & Gooze, 2015). Additionally, Head Start teachers face work environments that supply little resources or support, leading teachers to experience chronic exhaustion and disconnectedness from the workplace (Zhai, Raver, & Li-Grining, 2011).

Head Start teachers are already serving children in a variety of ways and instead of adding another policy or item onto their plates, there may be another avenue to provide literacy and language support to low-income children in preschool classrooms. Teachers and families are vital to Head Start programs, but so are school and classroom volunteers. In 2017, more than one-million adults volunteered across Head Start programs nationally (HSPF, 2018). Many were parents of children enrolled in Head Start programs and others were community members (HSPF, 2018). The roles of these volunteers were not reported, but the sheer number suggests they are a valuable population to explore, especially when considering the high demands placed on Head Start teachers.

### **Research Question**

Poverty has adverse long-term effects on child development including access to language and literacy experiences and development. Early educators may be able to provide low-cost learning experiences and teaching strategies to better prepare young children for Kindergarten.

Research supports the use of interactive storybook reading strategies to improve the language skills of children, including those at-risk for delays due to their low-income environments (Trivette & Dunst, 2007). There is a solid evidence base for best practices amongst adult learning methods as well (Trivette et al., 2009) which has led to parents and teachers to serve as effective storybook reading facilitators (Towson et al., 2017). What remains to be examined is if these instruction and training methods could improve the skills of adult volunteers working in educational entities that serve low-income children and communities. Ideally, all those serving at-risk children in classroom environments should be equipped with skills to maximize their time spent in classrooms.

The purpose of the study was to examine the feasibility of instruction facilitated by the preschool classroom volunteers at Operation Breakthrough, an Early Head Start and Head Start program in Kansas City, MO. The study aimed to provide a professional development training program geared toward language and literacy facilitation strategies with the intent of increasing the instructional skills of classroom volunteers at Operation Breakthrough. Target language and literacy intervention strategies included the use of WH-questions, expansions of child responses, and explicit instruction of narrative story grammar elements (SGEs) with the use of visual aids during small group (2-3 students) interactive storybook readings. The following research question was addressed:

1. After participating in a professional development training geared toward adult learning, is it feasible for preschool classroom volunteers to facilitate language and literacy instruction using evidence-based strategies within a small group interactive storybook reading experience?

It was predicted that the classroom volunteers' frequency of language facilitation strategies and narrative language instruction would increase after their participation in a professional development training program. Information gathered from this study will provide feedback to Operation Breakthrough regarding the current status and potential for growth for the volunteer role within the classroom. Analysis of volunteer training outcomes will determine the feasibility of using volunteers to provide additional early language and literacy experiences to preschool children. A deidentified summary of results of the pre-post surveys, post-training reflection, and pre-post frequency of strategy use will be provided to Operation Breakthrough volunteer department administrators and staff. This information may be used to change their current volunteer department trainings and protocols and perhaps bring to light the untapped potential of classroom volunteers.

## **Methods**

### **Research Design**

The study utilized a pretest-posttest research design involving five volunteer instructors (VIs). The study compared the language and literacy facilitation skill sets of VIs at Operation Breakthrough prior to and immediately following a professional development training. The VIs completed interactive storybook readings with small groups (two or three) of preschoolers aged four to five years old. No research data was collected from the preschoolers. The study procedures were approved by the Institutional Review Board (i.e., Human Subjects Committee-Lawrence) at the University of Kansas.

### **Background of Study Site**

Operation Breakthrough is an organization that serves families in the urban core of Kansas City, Missouri. It is a nationally accredited, non-profit corporation founded in 1971. The

organization is currently funded by Head Start, the State of Missouri, the city of Kansas City, and private donations (Operation Breakthrough, n.d.). Operation Breakthrough provides full-time early childhood and preschool programming for over 500 children each day. Classrooms serve children aged 6-weeks to 6-years old. School-age student services are also provided before/after school and during summer months. At Operation Breakthrough, children have access to a variety of early intervention services including speech-language therapy, occupational therapy, music therapy, and behavioral therapy. Families also have access to a community food pantry, community clothing closet, social work services, and an onsite Children's Mercy Health Care Clinic. More than 87% of the families enrolled at Operation Breakthrough live below federal poverty guidelines with 70% earning less than \$12,000 annually (n.d.). About 20% of the children and families enrolled are homeless.

From January-April of 2017, the lead investigator volunteered for Operation Breakthrough within the Volunteer Department. The organization hosts a robust volunteer program with 50-80 volunteers contributing each week in a variety of capacities. One of these capacities is serving as classroom volunteers. While serving as the Volunteer Department Intern, the lead investigator received feedback from classroom volunteers stating they didn't feel as if volunteers were being utilized to their fullest potential. Generally, they reported the classroom teachers did not have enough time to train/explain or the volunteers didn't feel confident in what they were doing. At this time, the classroom volunteer orientation does not provide formal training in early learning facilitation but has potential to become a standard part of training.

### **Participants**

Study participants included five adults (two men, three women) aged 21 to 63 years, who were already serving as preschool classroom volunteers at Operation Breakthrough. The study

recruitment procedures are discussed in the pre-training procedures section below. A demographic questionnaire revealed all five were either currently enrolled in or graduated from a bachelor's degree program. One worked full-time, another was retired, and three were students. Their volunteer histories at Operation Breakthrough ranged from three months to four years. Other than volunteering at Operation Breakthrough, their experiences with children included raising children, volunteering in school-age capacities, working as summer camp counselors, and teaching high school.

The investigator asked the VIs to report their utilization as classroom volunteers from a list comprised of assisting with story time, leading small groups, joining in with playtime, completing administrative tasks, completing cleaning tasks, assisting with classroom behaviors, and other. All five reported being used within the classroom to join into playtime, three reported assisting with classroom behaviors, three reported completing cleaning tasks, and one reported assisting with story time. The volunteer that assisted with story time had been volunteering in the classroom for four years. Upon study entry, the investigator assigned VIs deidentified titles of VI01, VI02, VI03, VI04, and VI05. Participant descriptions are displayed in Table 1.

**Table 1***Descriptions of Participants (Volunteer Instructors)*

VI Code	Gender	Age	Ethnicity	Level of Education	Employment Status	Length of time at OB	Experience with children	Capacities as a volunteer
VI01	Female	63	White	Bachelor's	Employed Full-time	2 years	Raising kids, Lead to Read volunteer	play time
VI02	Female	23	White, African American	Enrolled in bachelor's program	Student	1.5 years	None	play time, classroom behaviors
VI03	Male	23	White	Bachelor's	Employed Full-time	5 months	Kindergarten class volunteer	play time, classroom behaviors, cleaning tasks
VI04	Male	21	White	Enrolled in bachelor's program	Student	3 months	Youth camp counselor, youth basketball coach	play time, cleaning tasks
VI05	Female	61	White	Bachelor's	Retired	4 years	Previously taught high school English	play time, classroom behaviors, cleaning tasks, assisted with story time (supported students)

**Materials**

**Books.** Seven books were chosen for use throughout the study. All were selected in an attempt to achieve similar book lengths, engaging pictures, similar amounts of text on each page, and the presence of narrative story lines. Two books, *The Littlest Dragon* by Susan Quinn and *Harry the Dirty Dog* by Gene Zion, were selected for the study's pre-training readings. Three books, *Rainbow Fish* by Marcus Pfister, *Dog Breath* by Dave Pilkey, and *The Bear Who Would Not Share* by Graham Oakley, were selected for the training readings. Two books, *Jabari Jumps* by Gaia Cornwall and *Big Al* by Andrew Celements, were selected for the post-training readings.

**Story Grammar Element (SGE) Visual Aid** (see appendix A). This tool was created by the investigator for use throughout the study. The visual aid was a laminated strip with 5 removable, Velcroed icons that represented each target SGE. The five icons represented characters, setting, initiating event (problem), actions taken to solve the problem (fixing the problem), and solution (adapted from Stein, Glenn & Freedle, 1979). Each element had a

corresponding picture/visual support that was placed on the front as well as the definition and WH-question review prompt on the back, as suggested by Setter & Hughes (2010).

**Pre-training materials.** These included the study recruitment flyer (see appendix B), study consent form (see appendix C), pre-training demographic questionnaire (see appendix D), pre-/post-training survey (see appendix E), two story books (The Littlest Dragon and Harry the Dirty Dog), the SGE visual aid (see appendix A) sticker reinforcers, and camera via Microsoft Surface Pro. See training procedures section below for additional information.

**Training materials.** These included the professional development PowerPoint (see appendix F), video example of investigator modeling the strategies, role-playing prompts, three storybooks (Rainbow Fish, Dog Breath, The Bear Who Would Not Share), the SGE visual aid (see appendix A), strategy review sheet (see appendix J), sticky notes, sticker reinforcers, and camera via Microsoft Surface Pro. See training procedures for additional information.

**Post-training materials.** These included two story books (Jabari Jumps and Big Al), SGE visual aid, sticky notes, sticker reinforcers, camera via Microsoft Surface Pro, pre-/post-training survey (see appendix E), post-training reflection (see appendix G). See training procedures below for additional information.

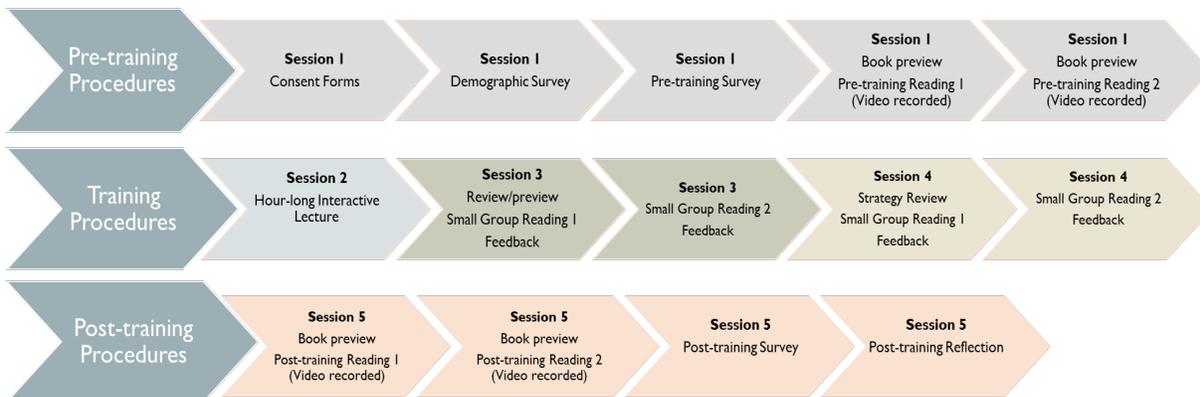
### **Pre-training Procedures**

**Consent and coordination with site.** Prior to proceeding with recruitment, the investigator collaborated with the volunteer coordinator and site contact at Operation Breakthrough to obtain consent to conduct the study. At this time, it was explained that a staff member (either the volunteer coordinator, site contact, or a classroom aide) would need to be present for all small groups to legally stay within staffing ratios. Because they were not employees of Operation Breakthrough, neither the investigator nor volunteers could be alone

with the children during small groups. Daily coordination needed to occur with the investigator, VI, classroom teachers/aides, and the volunteer coordinator or site contact.

**Recruitment.** The leading investigator attained a list from Operation Breakthrough Volunteer Coordinator of names/emails of volunteers who: volunteered at least weekly in preschool-aged classrooms, had served Operation Breakthrough classrooms for a minimum of one month, and had no more than two no-call no-show absences for scheduled volunteer times. The study considered participants ages 18-65+ years from a variety of backgrounds, ethnicities, and genders. After collaborating with the volunteer coordinator, the investigator separately emailed the recruitment flyer (see appendix B) with an introductory email to each of the potential participants. When contacted by a potential subject (via phone or email), the leading investigator gathered more information on their volunteer schedule at Operation Breakthrough and how the study schedule would look. Once the person stated their intention to participate, the investigator arranged a day to meet at Operation Breakthrough to discuss the study, obtain written consent to participate, and complete baseline data collection (session one; see below).

The study selected the first five subjects who expressed interest in participation. Each VI was only available to participate once a week during their previously scheduled weekly volunteer time slots. This factor dictated the training schedule of the study. Each VI completed five sessions within an eight-week period, but not all sessions occurred in five weeks consecutively due to scheduling conflicts, holidays, and conferences. Despite variability in the schedule, the VIs completed the same sequence of sessions including pre-training, training, and post-training procedures. See the participant study sequence in Figure 1.



**Figure 1.** This figure displays the study sequence that the participants flowed through.

**Attainment of signed informed consent** (see appendix C). The investigator met with subjects in person in a private classroom at Operation Breakthrough to review the informed consent document. The participants had the opportunity to sign and provide consent or decline their signature and subsequent participation. This portion took about 10-minutes to complete.

**Pre-training demographic questionnaire** (see appendix D). Before collecting initial baseline storybook reading information, the VIs completed a questionnaire to gather more data on their education level, previous/current profession, and the extent of their child care and teaching experience. The questionnaire also asked open-ended questions that examined the VI's general opinions about their role in the preschool classroom. This portion took about five minutes to complete.

**Pre-/post-training survey** (see appendix E). The survey was comprised of a 5-point Likert Rating Scale and corresponding questions to examine the VI's general opinions about their role in the preschool classroom and opinions about literacy and language instruction. This portion took about five minutes to complete.

**Baseline data collection (session one).** VIs completed two storybook readings to collect baseline information on their use of language and literacy facilitation strategies. Both readings

were consecutive and on the same data collection day. The VIs facilitated each small group storybook reading with 2-3 preschool students. These small groups took place in a hallway outside the classroom at the Operation Breakthrough facility. Each VI was provided with the same books and narrative language visual aids to use in the initial readings. Prior to reading each book with the children, the investigator provided VIs 15-minutes to preview the storybook, visual aid, and take notes for prompts using sticky notes. While reviewing, they were told to “promote language and literacy as much as possible using the book and visual aid.” Each of the instructor’s readings were video recorded for later analysis. This portion took 30 to 45-minutes to complete for each VI.

### **Training Procedures**

Training procedures occurred at Operation Breakthrough in a private classroom and in a hallway outside the preschool classrooms. The training procedures were comprised of methods recommended by Trivette et al. (2009) including 1) multiple learning modalities, 2) active participation, 3) a small number of participants per training session, 4) multiple training sessions, 5) variety of opportunities for individual instructor attention, 6) multiple opportunities for processing and reflection. These methods were combined to allow the VIs to receive guidance, feedback, and deeper understanding of the content they were learning as recommended by Trivette et al. (2009).

**Session two.** The investigator used a PowerPoint lecture (appendix F) and discussion on the importance of developing early language and literacy skills in an at-risk preschool setting, the general literacy and language skills that can be taught via interactive storybook reading, and the importance of teaching narrative SGEs to preschoolers. This discussion provided rationale for the intended instructional content. Then the session transitioned into explicit instruction

regarding the language facilitation strategies and SGE instruction within a storybook reading. The strategies were categorized into pre-reading, during-reading, and post-reading strategies. The investigator provided strategy descriptions and corresponding video examples of the investigator demonstrating each strategy within a real small group interactive storybook reading.

***Language-literacy facilitation target strategies.*** When selecting targets for this project's professional development and training, the investigator wanted to select a combination of interactive storybook reading strategies that promoted quality interactions between the VIs and the children as well as increased the children's exposure to narrative elements or SGE in the story. The investigator chose to use elements from dialogic reading (Whitehurst et al., 1988) including asking WH-questions and expansions of child responses during the storybook readings.

To support narrative language development, the investigator targeted story grammar in five elements: character, setting, problem, fixing the problem, and solution within the storybook. Characters were defined as the people or animals that the story was about. Setting was defined as where the story took place. The problem was defined as what went wrong in the story. Fixing the problem was defined as what the character did to try and fix/solve their problem. Solution was defined as how the story ended. Visual aids have been used to teach SGEs (McCabe et al., 2009; Stein, Glenn, & Freedle, 1979) and support generalizations across storybook readings, therefore, the investigator chose to include explicit instruction and reviews of SGEs within the interactive story book experiences. The investigator chose to create an interactive storybook reading routine including pre-, during-, and post-reading strategies to allow VIs to use multiple strategies throughout the readings. These interactive reading strategies were dependent variables counted at pre- and post-training sessions. The study dependent variables are listed in Table 2.

**Table 2***Descriptions of Dependent Variables*

<b>Pre-reading Strategies</b>	<b>Condition</b>	<b>Strategy</b>
<b>Verbal reference to the purpose of SGE VA</b>	To introduce the purpose of the VA, the VIs...	Verbally stated phrases like, "We are going to use these pictures to help tell our story."
<b>Physical reference to the SGE VA</b>	To aid in the children's understanding of the purpose, the VIs...	Pointed or gestured to the SGE VA icons.
<b>During-reading Strategies</b>	<b>Condition</b>	<b>Strategy</b>
<b>WH-Questions</b>	To elicit interactions with the children, the VIs...	Asked WH- questions led with who, what, when, where, why, how, or tell me to prompt interactions to predict (e.g., what will happen next?), comprehend (e.g., why did he do that?), comment (what do you think about that?), or describe (e.g., tell me what he looks like).
<b>Expansions</b>	If the children responded to the WH-questions or spontaneously commented on the book, the VIs...	Repeated the child's response but added information to demonstrate use of a longer, more complex utterance.
<b>References to SGEs</b>	As each of the five SGE appeared in the story (character, setting, problem, fixing the problem, solution), the VIs...	<ol style="list-style-type: none"> <li>1) Stated the SGE name (character, setting, problem, fixing the problem, solution)</li> <li>2) Stated the corresponding definition</li> <li>3) Stated the book-specific element ("Clifford the Big Red Dog")</li> <li>4) Physically pointed to/pulled off each SGE icon on the VA</li> </ol>
<b>Post-reading Strategies</b>	<b>Condition</b>	<b>Strategy</b>
<b>WH-Review Questions</b>	After closing the book, the VI asked the children the following WH-questions related to SGE names or definition...	<ol style="list-style-type: none"> <li>1) Who were the characters/who was the story about?</li> <li>2) Where was the setting/where did the story take place?</li> <li>3) What was the problem/what went wrong in the story?</li> <li>4) How was the problem fixed/how did the character try to fix the problem?</li> <li>5) What was the solution/how did the story end?</li> </ol>
<b>Physical reference to the SGE VA</b>	To aid in the children's understanding of the WH-questions, the VIs...	Pointed or gestured to the SGE VA icons as the WH-review questions were asked.

*Note:* In this table, SGE VA refers to the story grammar element visual aid.

Pre-reading strategies included physical and verbal references to the purpose of SGE visual aid and were targeted to support comprehension of SGEs and to prepare the students for its use during the interactive storybook reading. The verbal reference included statements such as, "We are going to use these pictures to help tell our story," to explain the purpose of the visual aid in conjunction with a physical reference such as pointing or gesturing to the visual aid. This

strategy was measured based on the presence or absence of a verbal reference to the purpose of the visual aid and physical reference to the picture icons on the visual aid prior to reading.

During-reading strategies included *references to SGEs* via the visual aid and included four verbal and visual references to each of the five SGEs. These four verbal and visual references were the: 1) SGE name (character, setting, problem, fixing the problem, solution), 2) corresponding definition, 3) book-specific element (e.g., Clifford the Big Red Dog is a book specific character), and 4) physical reference to the visual aid as the element appeared in the story. This strategy was measured based on the number and type of references included for each SGE during the reading. Child friendly icons were created for each SGE including characters, setting, problem, fixing the problem, and solution. To elicit interactions with the children, the VIs *asked WH- questions* led with who, what, when, where, why, how, or tell me to prompt interactions to predict (e.g., what will happen next?), comprehend (e.g., why did he do that?), comment (what do you think about that?), or describe (e.g., tell me what he looks like). If the children responded to the WH-questions or spontaneously commented on the book, the VIs *expanded* on the response by repeating the child's response but adding information to demonstrate use of a longer, more complex utterance. For example, if the child said "trees" while looking at trees, the VI was to expand the utterance by saying something like "the green trees are tall."

After the VIs read the story and closed the book, they were expected to implement two post-reading strategies: 1) review the SGEs by asking WH-questions, and 2) reference the SGE visual aid. The VIs used the SGE visual aid to review each SGE with the children. The VI *asked WH- review question prompts* for each SGE (located on the back of the visual aid icons) (see

Table 2). To aid the children's understanding of the WH-questions, the VIs *pointed or gestured to the SGE visual aid* to physically reference the icons as the WH-review questions were asked.

After the VIs watched the video example of the investigator's reading of *The Rainbow Fish*, the VIs had a chance to role-play an interactive reading with the investigator. VIs were asked to walk through the book *The Littlest Dragon* and prepare WH-questions on several pages as well as identify all five SGEs. The investigator then role-played with the VIs by prompting them to ask the investigator WH-questions about the book. The investigator then role-played a child response, and the VIs practiced expanding the utterance. The investigator was then able to provide feedback on the questions asked and the expansions given. This session took about an hour to complete. Due to scheduling needs, VI01/VI02 participated in session two together. This also happened with VI03/VI04. VI05 participated in an individual second session.

**Session three, session four.** During sessions 3 and 4, the VIs had four opportunities (total) to practice the strategies within small group (2-3 children) storybook readings and receive immediate feedback from the investigator. During session 3, the VIs worked with the story "Dog Breath." At the start of the session, the VI reviewed the target strategies with the investigator for about five minutes using the strategy review sheet (see appendix J) with the strategy names and examples listed. Then, together the VI and investigator spent 15 to 20-minutes previewing the book while generating WH-questions and spots to refer to SGEs. Here, the investigator modeled and scaffolded VIs' WH-question generation and SGE references. At that time, the investigator prompted the VIs to use more open-ended questions if possible. The investigator encouraged the VIs to use sticky notes on corresponding pages as a starting point for question generation but were not limited to just asking the questions they prepared.

After preparing the book, the investigator brought a group of two or three children to participate in a reading of the storybook led by the VI. During the reading, the investigator assisted the VI with child behaviors and group management, if needed. After the reading and the children left, the investigator spent about five minutes debriefing with the VI and providing feedback on what went well and what to try the next time. The investigator provided an initial prompt of “How do you think that went?” to begin the conversation. The VI then had the chance to immediately apply this feedback to another small group reading of the same story. Again, after the reading, the VI and investigator debriefed on how the small groups went using the same question prompt. This same process was completed for session four, which took place approximately 1-2 weeks after session three, with the only change being the book, “The Bear Who Would Not Share.” These sessions generally took about an hour to complete.

### **Post-training procedures**

**Post-training data collection (session five).** During session 5, VIs completed two storybook readings to collect post-training information on target language and literacy facilitation strategies. Both readings were completed consecutively on the same data collection day but with two different books. The VIs facilitated each small group storybook reading with 2 or 3 preschool students. The small groups were in the hallway outside the preschool classrooms. Each VI used the same books and SGE visual aid. Prior to reading each book, VIs took about 15-minutes to preview the storybook, visual aid, and take notes for prompts. While previewing, the investigator provided VIs with the same instruction as the pre-training interactive shared story book sessions, to “promote language and literacy as much as possible using the book and visual aid.” Each of the instructor’s shared storybook readings were video-recorded for later analysis. This session generally took about an hour to complete.

**Pre-/post-training survey** (see appendix E). After session five, the participants completed a post-training survey comprised of the same pre-training 5-point Likert Scale and questions to examine the VI's general opinions about their role in the classroom and beliefs about literacy and language instruction. This portion took about 5-minutes to complete.

**Post-training reflection** (see appendix G). After completing the survey, each VI answered reflection questions to collect information regarding their personal experience with the study. Within this document, VIs expressed what parts of the study went well and which did not. They provided feedback about the strategies that were taught, the teaching methods that were used, and reflected on which strategies and teaching methods they preferred and why. This portion took about 10 minutes to complete.

### **Data Analysis Procedures**

**Strategy usage within pre-/post-training videos.** After program completion, the investigator analyzed pre- and post-training videos to evaluate the effectiveness of the professional development training on the targeted interactive storybook strategies. In order to accurately measure pre-, during-, and post-strategy usage, the investigator watched each video twice. While watching, the investigator documented the VIs' use of each strategy on the Video Analysis Form (see appendix H) under the sections of pre-, during-, or post-reading. After recording the strategies, the investigator coded each strategy according to a coding scheme (see appendix H for Video Analysis Form). The coding scheme was comprised of labeling the strategy as a WH-question, forced-choice question, expansion, or repetition. Additionally, each reference to the SGEs was to be written out. Once each video was coded, the investigator totaled the points for each strategy and recorded the score on the video analysis form to organize each VI's strategy usage within an individual video. During pre-reading, the VI was awarded one-

point for the presence of a verbal reference to the purpose of the visual aid and one-point for the presence of a physical reference to the visual aid.

For during-reading strategies, the investigator examined the inclusion of SGE instruction, WH- questions, and expansions of child responses. For SGE instruction, the VI could earn a score of up to 20 points based on their inclusion of each SGE name (5), definition (5), book specific element (5), and physical reference to visual aid over the duration of the reading (5). In separate scores, the investigator counted the total number of WH-questions that the VI asked, as well as the number of times the VI expanded a child's response or comment.

During post-reading, the VI received one point each time the VI asked a WH-review question that was specific to an SGE (5 SGEs so 5 points were possible). Also, the investigator counted the number of times the VI pointed (physical reference) to the visual aid when asking WH-review questions.

The researcher totaled frequency of each target strategy used by each VI. Total scores in each target area were transferred into a Microsoft Excel spreadsheet to compare pre-/post-training strategies across all five VIs.

**Pre-/post-training survey** (see appendix E). The pre-/post-training survey 5-point Likert scale offered VIs points per their level of agreement on a scale from 1-5 (strongly disagree = 1 point, disagree = 2 points, neutral = 3 points, agree = 4 points, strongly agree = 5 points). The investigator compared the responses on both the pre- and post-training surveys regarding the VI's opinions on literacy development, their role in the classroom, and their overall agreements levels in having skills/making an impact in the classroom. The investigator compared responses by analyzing any change in points awarded per agreement question within and across individuals

pre/post-training participation. The results of these pre-/post-training VI reflections are presented in the Individual Volunteer Instructor Change section in the Discussion below.

**Post-training reflection** (see appendix G). The investigator examined each of the reflection responses documented by the VIs, post-training. The investigator looked for qualitative similarities and differences across VI responses. The investigator collected anecdotal feedback about the VIs' experiences. The results of these post-training VI reflections are presented in the Individual Volunteer Instructor Change section in the Discussion below.

### **Reliability Measures**

**Inter-observer reliability.** The investigator conducted reliability measures to determine if the video analysis process and use of the investigator-created tool was replicable and the results were consistent across observers. The investigator and project chair recruited a speech-language pathology graduate student at the University of Kansas to take part in a video analysis training and to complete the same analysis procedure for 20% of the videos. Four of the 20 videos (two pre-training, three post-training) were selected using a random number generator.

The primary investigator trained the graduate student using a post-training video that was not one of the videos selected for the reliability check. Prior to watching the videos, the investigator instructed the graduate student on each strategy and how to recognize it within a storybook reading. Additionally, the investigator provided the graduate student with an analysis guide (see appendix I) containing examples and the analysis procedures. Then the graduate student sat with the investigator and completed the analysis process for the training video. They watched the video together and followed along with a completed data sheet to discuss examples of how to record the strategies on page two of the video analysis form (see appendix H) and how to later code them and transfer them to the grid on the front of the form. Then, the SLP graduate

student completed four (two pre-training, two post-training) video analyses of readings independently with the support of the analysis guide. After completion of the reliability video analysis, the investigator compared the analysis forms and scores between raters. For each pre-, during-, and post-reading strategy score, for each VI, the investigator determined if there was 100% agreement between the investigator and the SLP graduate student. Then, the investigator calculated the interobserver reliability percent agreement by dividing the number of strategy scores in which there was 100% agreement by the total number of strategy scores. Patten (2012) recommended an interobserver reliability rating of 80% when completing inter-observer reliability measures.

### **Reliability Results**

The SLP graduate student completed four (two pre-training, two post-training) video analyses independently with the support of the analysis guide. The investigator compared the scores within 32 categories across four videos, and therefore examined 128 categories for agreement. The investigator and reliability rater overall had an agreement level of 90%, surpassing recommended reliability standards. In 116 categories the raters had 100% agreement, in 7 categories had 80-99% agreement, and in 5 categories they had less than 80% agreement. The raters met to discuss the categories that had less than 80% agreement.

For one category, the raters determined the reliability rater incorrectly calculated the number of questions in a category, therefore the total collected by the investigator was used for the study results. For another category, the reliability rater gave a VI credit for providing an SGE name, when the investigator gave credit for the SGE definition instead. The raters watched the corresponding video again and determined the VI used the definition as opposed to the name. This clarification resolved two low-agreement (less than 80%) discrepancies. Within another

category, the investigator gave a VI credit for using a book specific element, while the reliability rater did not. The raters watched the video again, looking for the book specific element. In this viewing, the pair determined the VI did use the book specific element.

For the last low-agreement category, the reliability rater gave a VI credit for providing two more expansions than the investigator. The raters watched the video again and noticed that two additional expansions did take place but after the VI closed the book. The raters agreed to not include them in the during-reading total because they took place after the book was closed and did not fit the during-reading criteria. While the raters agreed, the discrepancy brought about an issue to be included in the limitations; expansions were only measured as during-reading strategies and not as pre- and post-reading strategies.

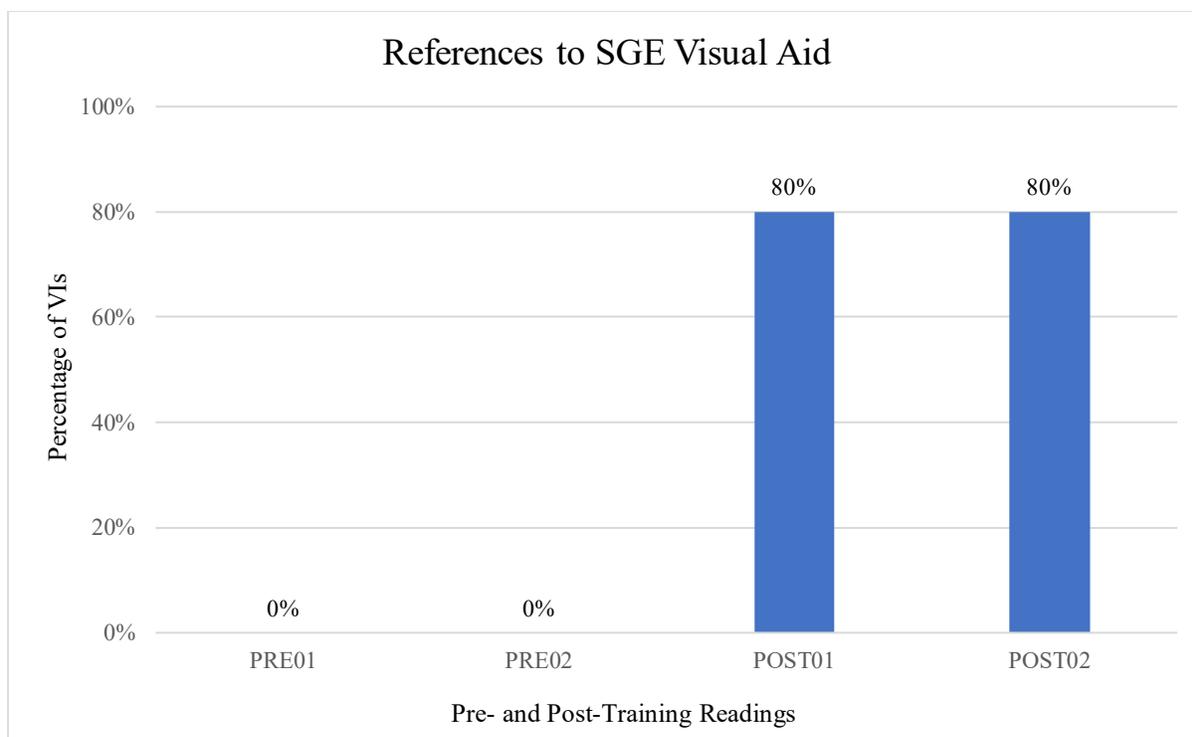
**Other methods of reliability.** The VIs all received the same professional development training sequence. Session two was delivered with a scripted PowerPoint (see appendix F) and all subsequent sessions followed the same routine. To support consistency during the initial training session, the instructional strategies were also taught through the viewing of pre-recorded video models. Other reliability measures included the VIs' utilization of the same sets of storybooks as well as the same strategy review sheet (see Appendix J) and SGE visual aid (see appendix A) during the training sessions.

## Results

To measure the effects of the professional development training, the investigator examined the type and frequency of pre-, during-, and post- reading strategies used by the VIs across pre- and post-training interactive storybook readings. Within this section, the investigator examined data collected through observation and analysis of 5 VIs each conducting 2 pre-training and 2 post-training interactive shared storybook readings. The data was compared to identify changes in VIs' use of language and literacy strategies after the professional development training.

### Pre-Reading Strategies

**Introduction to the purpose of the SGE visual aid.** The investigator recorded the presence or absence of VI's verbal and physical introduction of the purpose of the SGE visual aid prior to reading. Prior to the professional development training, none of the VIs referred to the purpose of the SGE visual aid before reading, despite having access to it. After the professional development training, four of the five VIs consistently introduced the purpose of the SGE visual aid in their small groups by saying something such as "We are going to use these pictures to help read our story today." The presence or absence of VI introductions of the purpose of the SGE visual aid prior to readings are displayed in Figure 2.



**Figure 2.** This figure shows the percent of VIs who introduced the purpose of the SGE visual aid with verbal and physical references across the pre- and post-training storybook readings.

### **During-Reading Strategies**

The investigator measured the VIs' pre- and post-training use of WH-questions, expansions, and references to SGEs during readings. The WH-questions and expansions scores were calculated by adding the raw total of how many times strategies were used during the readings. For SGE references, recall that VIs could earn up to a total of 20 points per reading (4 different types of references for each of 5 SGEs). The mean and standard deviation (SD) of each strategy's score are listed below in Table 3 for both pre- and post-training storybook readings. The means and SDs of each strategy were not statistically compared but are displayed in to view during-reading strategy changes. VIs used more WH-questions, expansions, and references to SGEs in post-training storybook readings compared to pre-training readings but there were not enough participants to determine statistical significance.

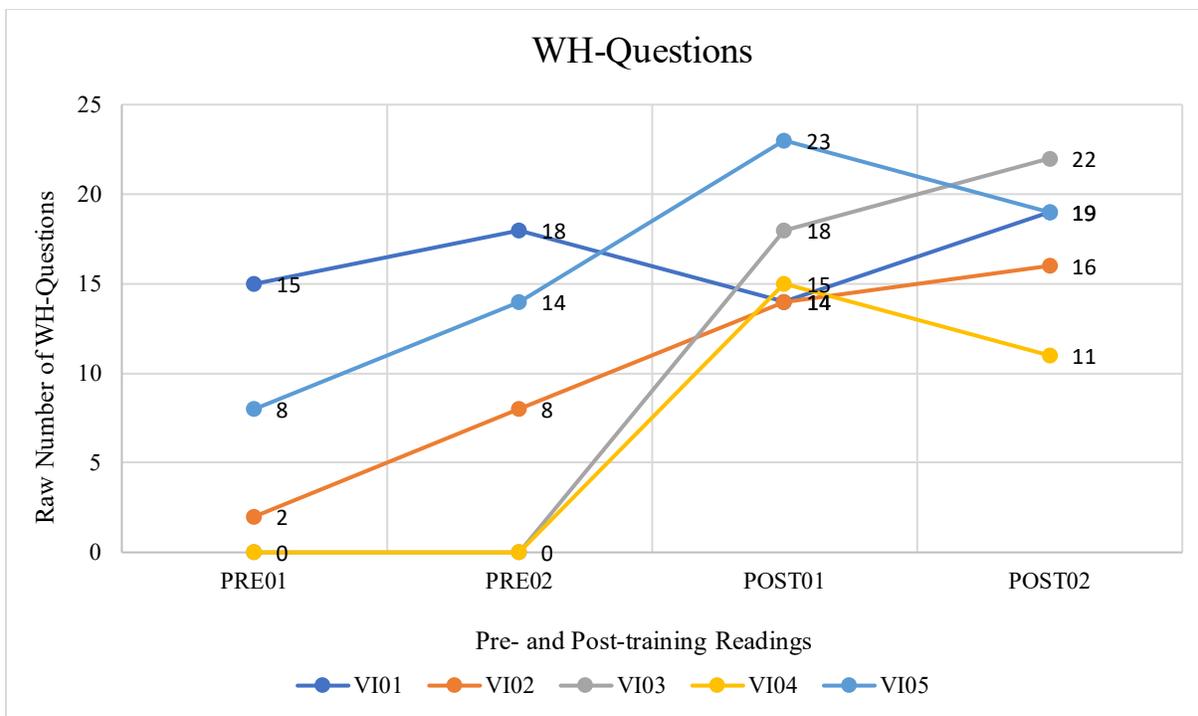
**Table 3**

*Mean and Standard Deviations of During-Reading Strategies Across VIs and Pre-/Post-training Storybook Readings*

	Pre-Training		Post-Training	
	Pre-training Reading 1 Mean (SD)	Pre-training Reading 2 Mean (SD)	Post-training Reading 1 Mean (SD)	Post-training Reading 2 Mean (SD)
<b>WH-Questions</b>	5 (5.79)	8 (7.26)	16.8 (3.42)	17.4 (3.7)
<b>Expansions</b>	1(.89)	1.8 (1.46)	14.4 (7.2)	10.4 (3.66)
<b>References to SGEs (out of 20)</b>	0 (0)	0 (0)	13.6 (2.2)	15.2 (2.78)

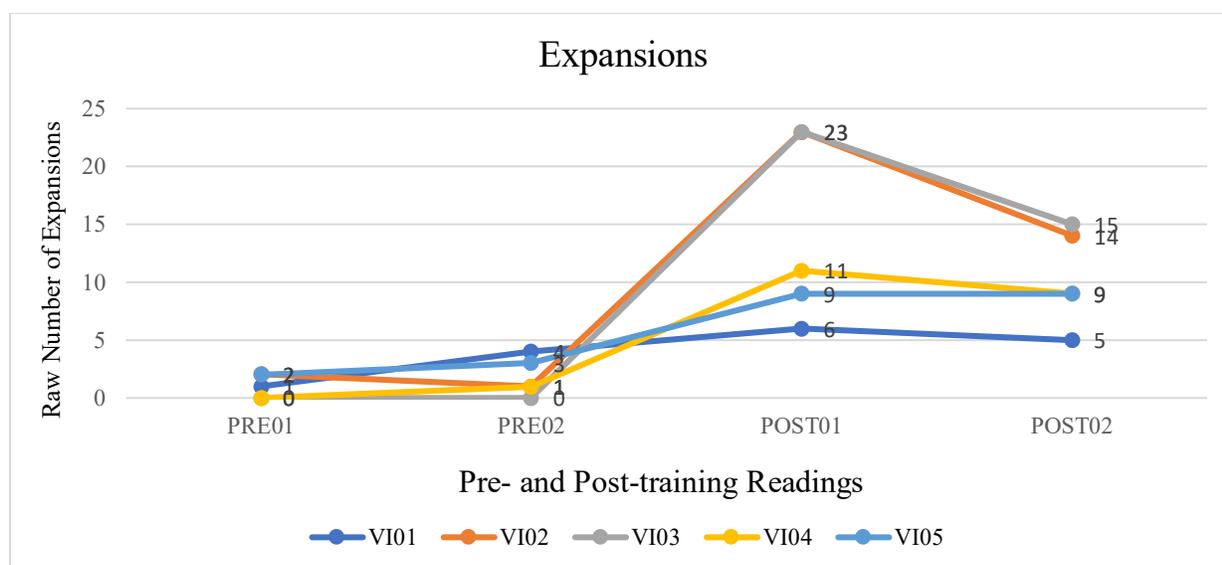
*Note:* The abbreviation SD refers to standard deviation.

**WH-Questions.** The investigator recorded the number of times the VIs asked WH-questions during the pre- and post-training readings. Overall, four of the five VIs increased their use of WH-questions after receiving the training while one (VI01) maintained use of WH-questions. VI01 asked 15 and 18 WH-questions in the pre-training readings, then asked 14 and 19 in the post-training readings. VI02 asked 2 and 8 WH-questions in the pre-training readings, then asked 14 and 16 in the post-training readings. VI03 asked zero WH-questions in both pre-training sessions, then asked 18 and 22 in post-trainings readings. VI04 asked zero WH-questions in pre-training readings, then asked 11 and 15 in the post-training readings. VI05 asked 8 and 14 WH-questions in pre-training readings, then asked 23 and 19 in post-training readings. The number of WH-questions asked by VIs across the 4 readings are displayed in Figure 3.



**Figure 3.** This figure shows the number of WH-Questions asked by individual VIs across the pre- and post-training storybook readings.

**Expansions.** The investigator recorded the number of times VIs expanded a child's response or comment during the pre- and post-training readings. All five VIs increased their provision of expansions from pre- to post-training readings. VI01 provided 1 and 4 expansions in the pre-training readings, then 6 and 5 in the post-training readings. VI02 provided 2 and 1 expansions in the pre-training readings, then 23 and 14 in the post-training readings. VI03 provided zero expansions in pre-training readings, then provided 23 and 15 in post-training readings. VI04 provided zero and 1 expansion(s) in pre-training readings, then provided 11 and 9 in the post-training readings. VI05 provided 2 and 3 expansions in the pre-training readings, then provided 9 in both post-training readings. When compared to the pre-training readings, VI01 provided an average of 2 more expansions in the post-training readings but, on average, VI02-VI05 provided 6-19 more expansions in readings after participating in the training. The number of expansions provided by VIs across the four readings are displayed in Figure 4.



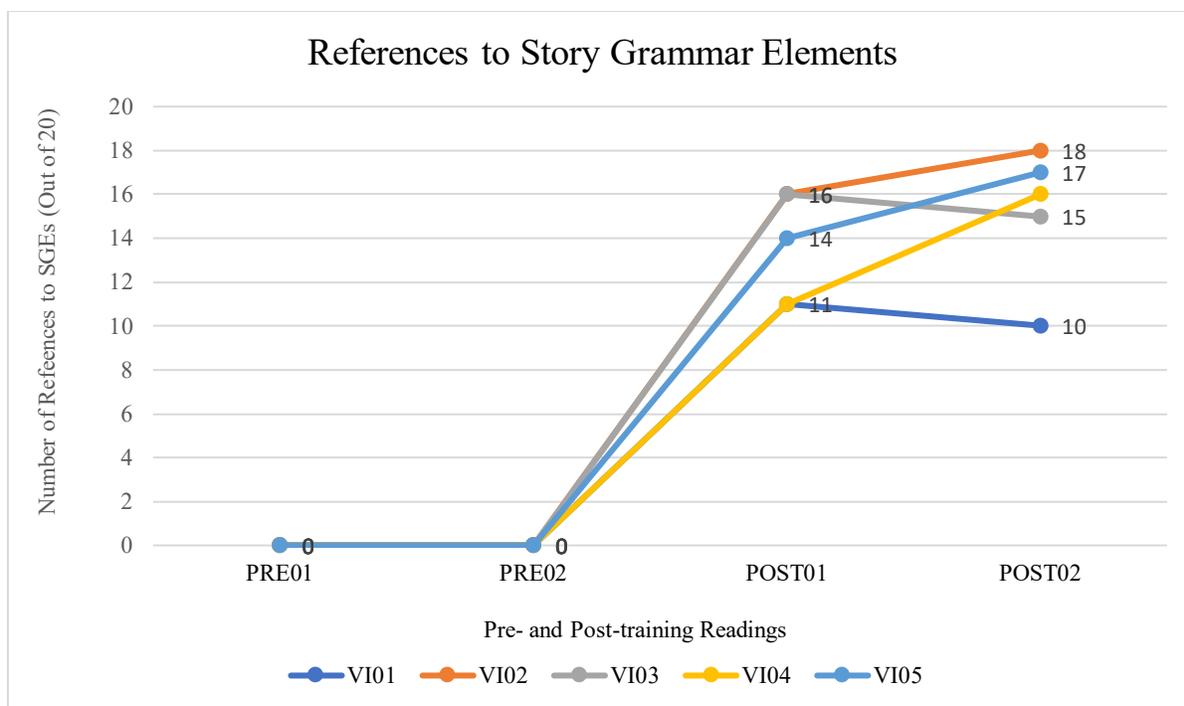
**Figure 4.** This figure shows the number of expansions of child responses or comments by individual VIs across the pre- and post-training storybook readings.

**WH-Question to Expansion Ratio.** Asking WH-questions allowed children more opportunities to respond, and thus allowed the VI opportunities to expand on child utterances. The investigator compared the number of VI expansions of child responses or comments to the number of WH-questions asked by VIs within the readings to calculate a ratio. The ratio was calculated by dividing the total number of expansions by the total number of WH-questions asked. This yielded a ratio result between 0.00 (no expansions used) and 1.00 (one expansion for every WH-question asked). A score higher than 1.00 indicated the VI provided more expansions than WH-questions. When comparing pre- and post-training data, the VIs' ratios generally increased from pre- to post-training, meaning the VIs increased their expansions per the number of WH-questions asked. The results are listed in Table 4.

**Table 4***Ratio of Volunteer Instructor Expansions to WH-Questions*

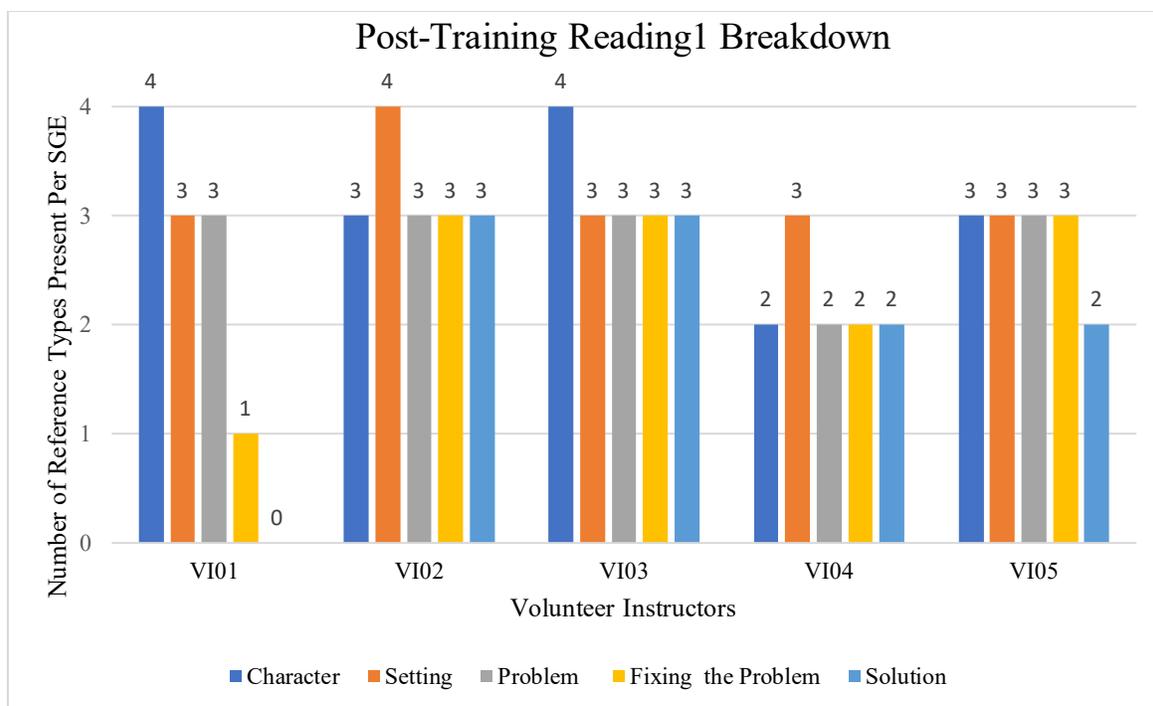
<b>Volunteer</b>	<b>PRE01</b>	<b>PRE02</b>	<b>POST01</b>	<b>POST02</b>
<b>VI01</b>	0.06	0.22	0.42	0.26
<b>VI02</b>	1.00	0.12	1.64	0.87
<b>VI03</b>	0.00	0.00	1.27	0.68
<b>VI04</b>	0.00	0.00	0.73	0.81
<b>VI05</b>	0.25	0.21	0.39	0.47

**References to Story Grammar Elements.** The investigator recorded the total number of references to the SGEs. Recall, VIs had the opportunity to reference the five SGEs using four different SGE reference types: SGE name, definition, book specific SGE element, and physical reference to the corresponding SGE icon on the visual aid. Therefore, there were 20 total SGE reference opportunities. The investigator allotted the VIs one point per reference to SGE. Prior to the training, none of the VIs achieved an SGE reference score higher than 0, indicating they did not refer to the SGEs during the readings. After the training, all five VIs increased the number of references to SGEs during the readings. VI01 scored 11 and 10 SGE points in post-training readings. VI02 scored 16 and 18 SGE points in post-training readings. VI03 scored 16 and 15 SGE points in post-training readings. VI04 scored 11 and 16 SGE points in post-training sessions. VI05 scored 14 and 17 SGE points in post-training readings. The total number of references to the SGEs (out of 20) by VIs across the four readings are displayed in Figure 5.

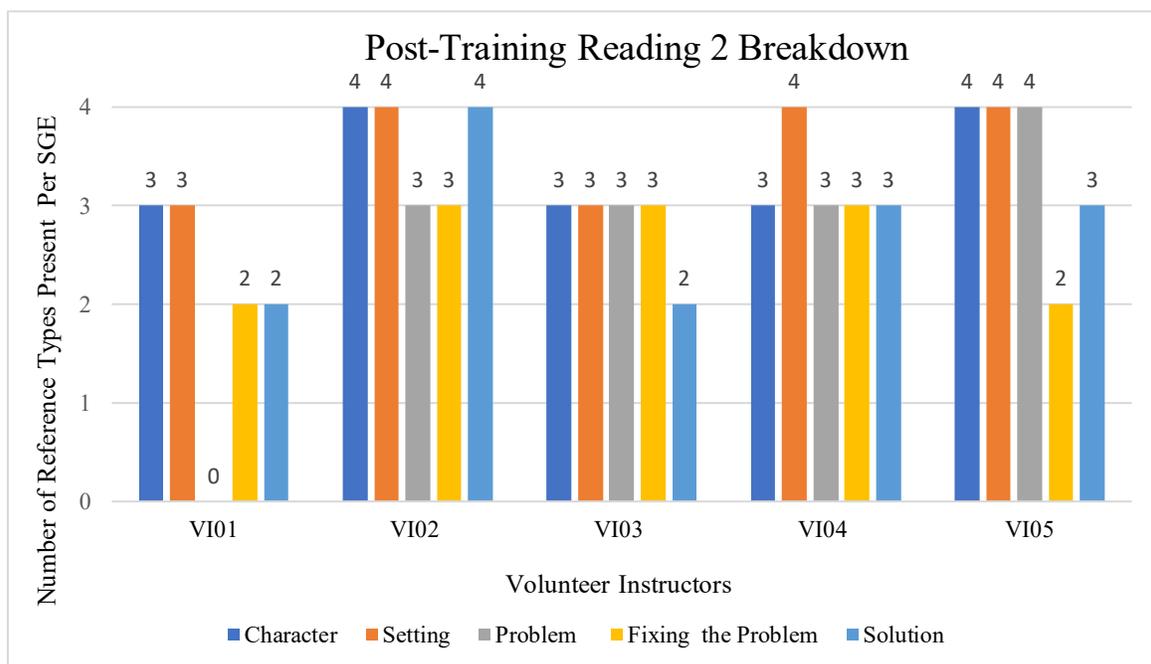


**Figure 5.** This figure shows the total number of references to SGEs by individual VIs across the pre- and post-training storybook readings out of a score of 20.

***Breakdown of total SGE References.*** The investigator broke down references to SGEs further to examine the VIs' use of specific reference types and specific SGEs. The VIs only referred to SGEs after receiving the training, therefore, the data regarding the SGE breakdowns were only pulled from the post-training readings. If a VI did not refer to an SGE using any method, they received a score of zero for that element. If they used all four methods (name, definition, book specific element, reference to visual aid), the VI received a maximum score of four for that element. Overall, 4 of the 5 VIs (VI02-VI05) consistently referred to every SGE with at least 2 of the 4 reference methods during post-training readings. VI01, however, referenced fixing the problem once and did not make any reference to solution in the first post-training readings. Additionally, VI01 did not make any reference to the problem in the second post-training reading. See the breakdown of SGEs referred to by VIs across the post-training readings in Figures 6 and 7.



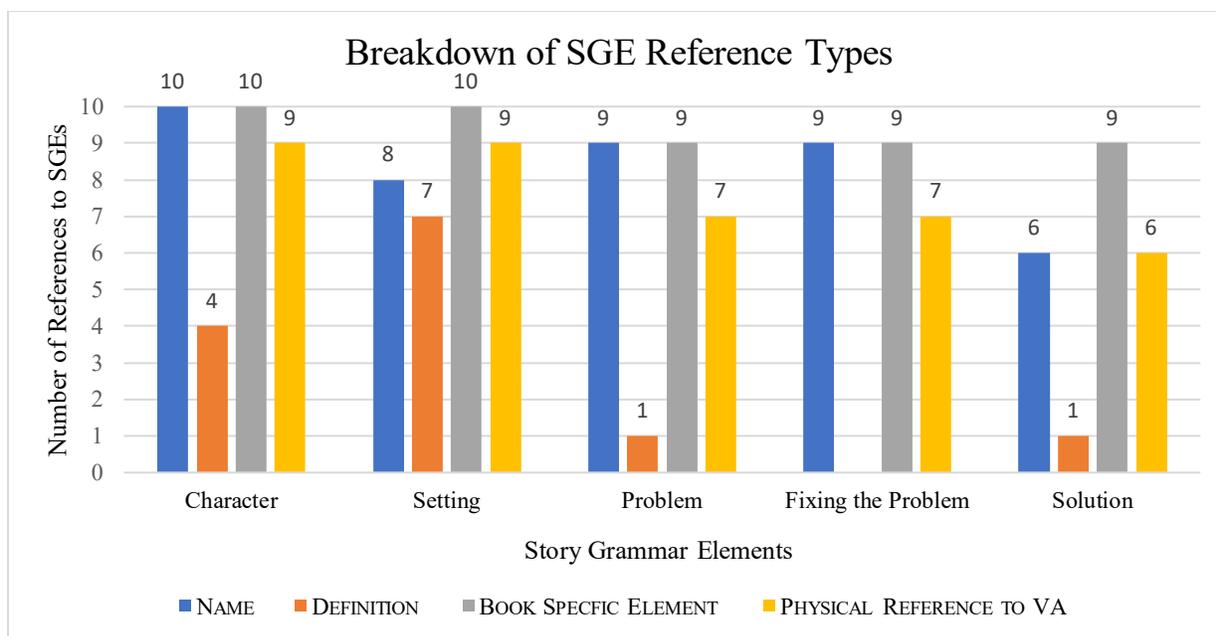
**Figure 6.** This figure shows the total number of references per SGEs by individual VIs in Post-training Reading 1 out of a score of 4.



**Figure 7.** This figure shows the total number of references per SGEs by individual VIs in Post-training Reading 2 out of a score of 4.

***Breakdown of SGEs Reference Types.*** The investigator broke down the SGE references even further to determine which of the SGEs were referred to most frequently by the VIs. The 5 VIs had four ways (name, definition, book specific answer, and physical reference to visual aid) to reference each SGE (character, setting, problem, fixing the problem, solution) across two post-training readings. This meant there were 40 reference opportunities for each SGE (4 reference types per SGE x 5 VIs x 2 readings, totaled to 40 references opportunities). Combined, VIs referenced characters in 33/40 (83%) opportunities, setting in 34/40 (85%), problem in 26/40 (65%) opportunities, fixing the problem in 25/40 (62%) opportunities, and solution in 22/40 (55%) opportunities.

The investigator also broke down the SGE references to determine which type of SGE reference (names, definitions, book specific elements, and physical references to the visual aid) occurred the most frequently. Combined, VIs had the opportunity to use an SGE name, definition, book specific elements, or physically refer to the SGE on the visual aid 50 times each (e.g., 5 SGEs x 5 VIs x 2 readings, totaled to 50 opportunities to refer to each SGE). VIs named SGEs in 42/50 (84%) opportunities, defined SGEs in 13/50 (26%) opportunities, provided book specific exemplars of the SGE in 47/50 (94%) opportunities, and physically referenced SGEs via the visual aid in 38/50 (76%) opportunities. The breakdown of types of references to SGEs used across VIs is displayed in Figure 8 below.



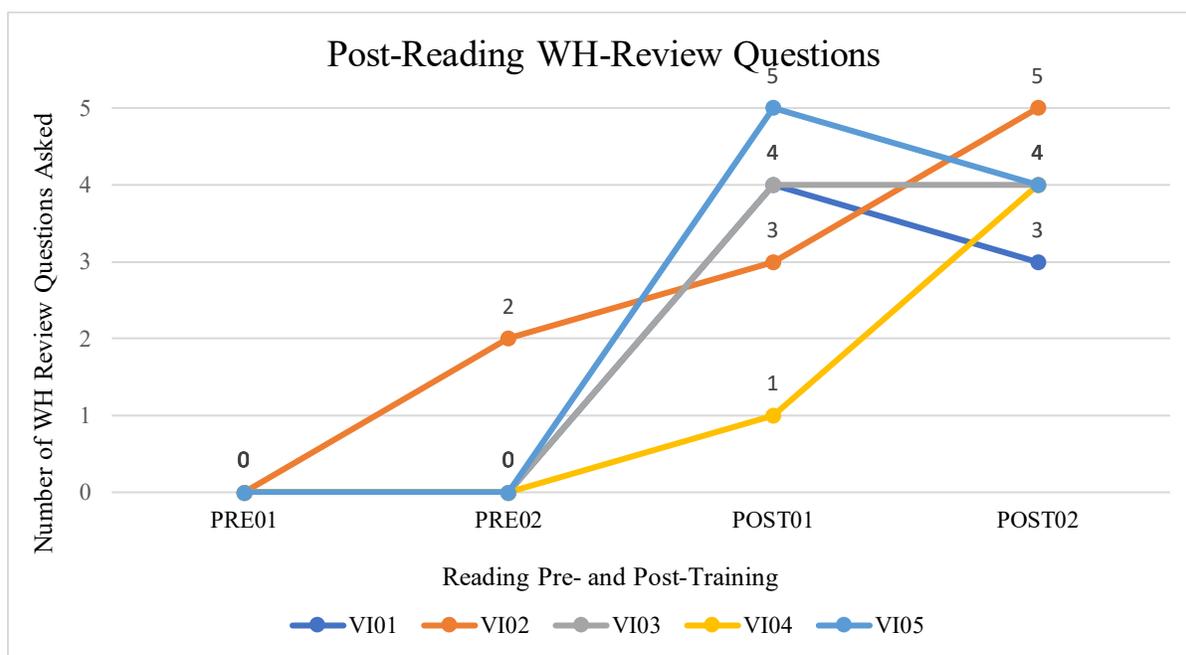
**Figure 8.** This figure shows the total number of times VIs referred to individual SGEs (characters, setting, problem, fixing the problem, and solution) as well as how many times specific reference types were used by VIs (name, definition, book specific elements, physical references to visual aid).

### Post-reading Strategies

After the VI's read the storybooks, they were expected to review the SGEs with the children using WH-questions while physically referring to the corresponding icons on the SGE visual aid.

**WH-review questions.** During the training sessions, the investigator instructed the VIs to ask WH-question prompts containing the SGE name or definition. For example, they could have asked: Who were the characters/who was the story about?; Where was the setting/where did the story take place?; What was the problem/what went wrong in the story?; How was the problem fixed/how did the character try to fix the problem?; What was the solution/how did the story end? In both pre- and post-training readings, the investigator recorded the number of WH-review questions asked by the VIs after the story. Prior to receiving the training, four of the five VIs did not ask any WH-review questions after reading the story. During pre-training reading 1, VI02,

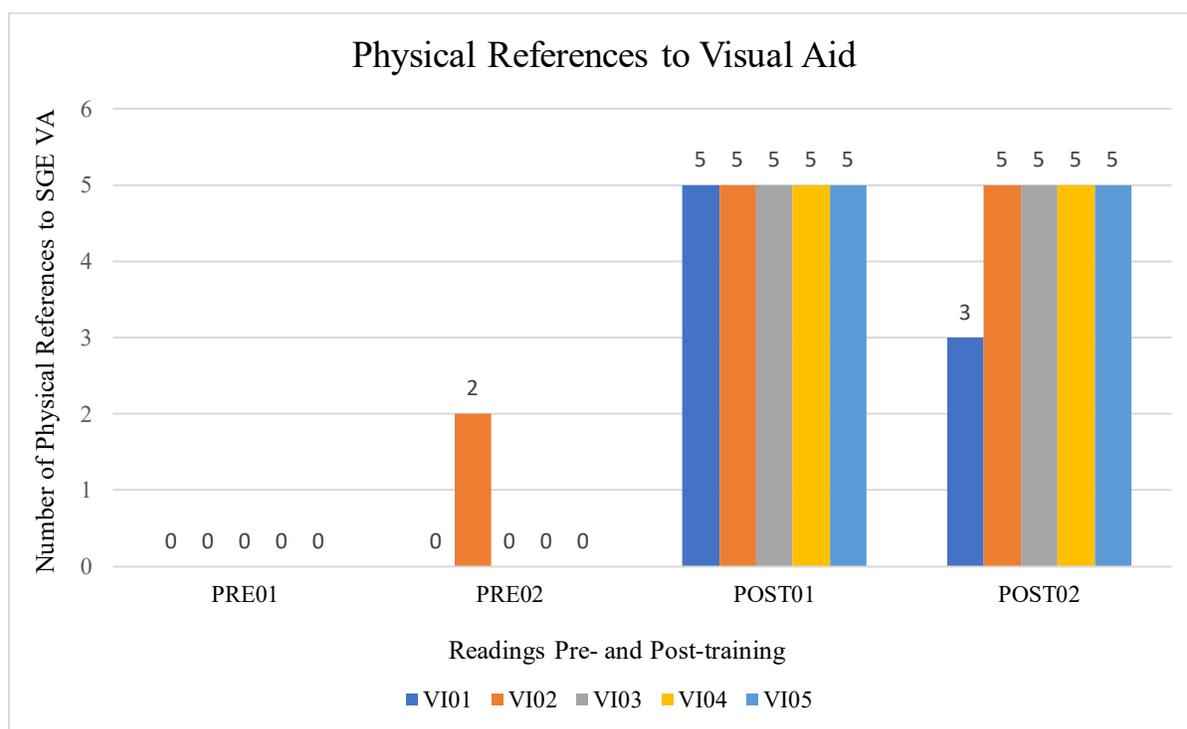
asked 2 questions but only after the children in the group asked the VI to “read what was on the back of the card.” After the training, the VIs consistently asked 3 to 5 of the 5 WH-review questions. There was one instance where a VI (VI04) only asked 1 WH-review question in a post-training reading. When VIs asked less than 5 WH-review questions, they often asked a forced-choice questions (i.e., “Do you know who the character is?” rather than “Who was the character/the story about?”) or modeled the response rather than allowed an open opportunity for the children to respond via a WH-question. The number of WH-review questions asked by the VIs are displayed in Figure 9 below.



**Figure 9.** This figure shows the number of WH-review questions asked by individual VIs across the pre- and post-training storybook readings.

**Physical References to the Visual Aid.** The investigator measured the number of times VIs physically referred to the SGE visual aid icons while asking the WH-review questions. For example, the VI was expected to ask, “Who were the characters?” while pointing to the Character icon on the visual aid. Within each reading, the VIs could receive up to 5 points (one physical reference to the visual aid for each of the five SGEs). In the pre-training readings, only

one VI (VI02) physically referred to the visual aid while asking 2 WH-review questions. Again, it is worth noting that VI02 only referred to the questions after the children in the group grabbed the visual aid and asked VI02 to tell them what was on the back. In post-training readings, four of the five VIs consistently used the visual aid and appropriate icons to ask about each of the five SGEs. There was one instance in a post-training reading where VI01 mentioned all SGE elements in a question form but only physically referred to 3 icons. See results in Figure 10.



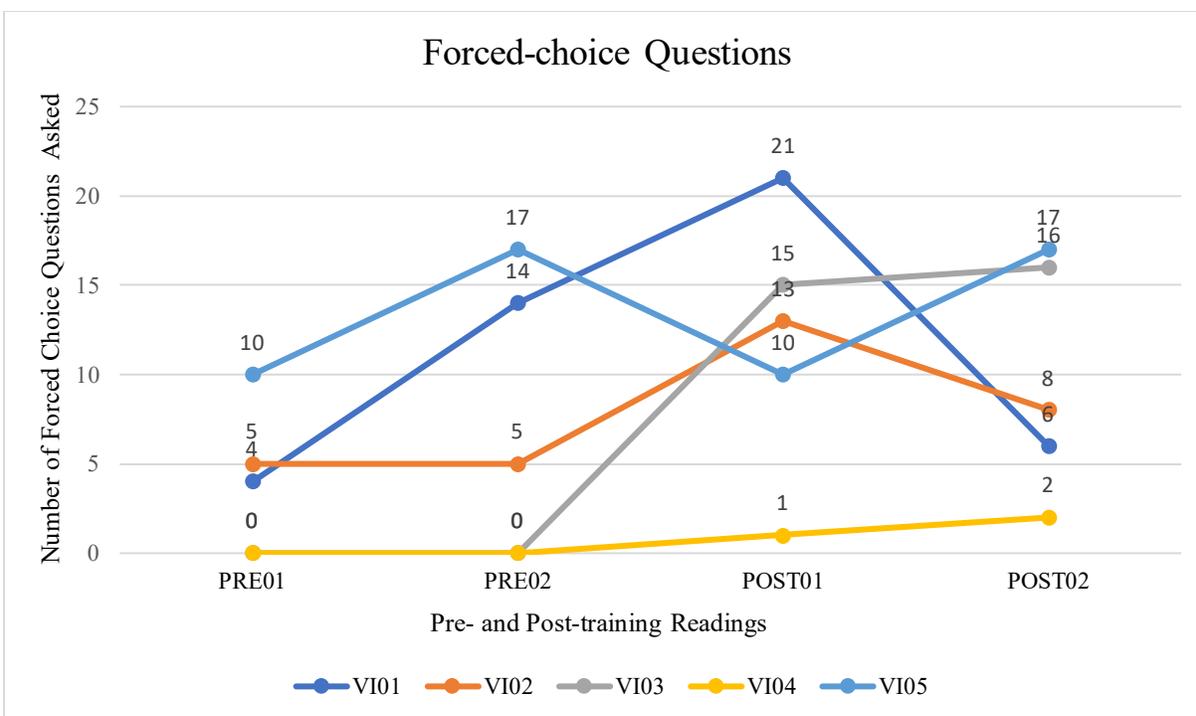
**Figure 10.** This figure shows the number of physical references to the SGEs via the visual aid by individual VIs across the pre- and post-training storybook readings.

### Post-Hoc Analysis

While analyzing the videos, the investigator noticed VIs using strategies that were not taught in the trainings but that were being used consistently, or increasing, when comparing pre- and post-training readings. The strategies were forced-choice questions, repetitions of child responses, and length of readings. Forced-choice questions were those that offered the child two options to respond. For example, the VI might have said, “Do you think he is happy or sad?” The

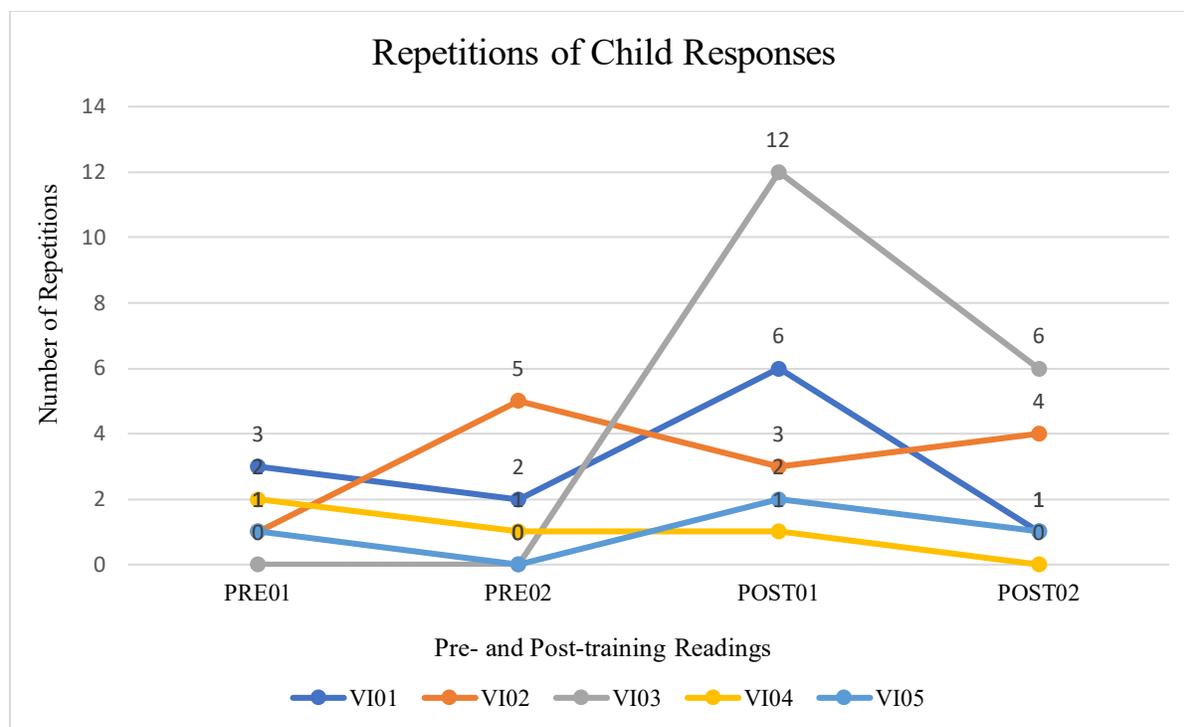
VI might have also said, “Do you think he is happy?” seeking a yes or no response. In both forms, the VI encouraged reciprocal interaction with the child but limited the child’s role in generating a response. Also, forced-choice questions made it difficult for the VI to expand on the child’s response. For the purpose of this study, questions that offered choices or yes/no responses were included as forced-choice questions. The investigator also noticed that VIs often repeated the child’s response to a question without adding new information. For example, if the child answered a forced choice question with “happy,” the VI might have said “yes, he is happy” which does not add much meaning to the sentence. Last, the investigator measured the length of pre- and post-training from the moment the VIs introduced the SGE visual aid or book title until they stopped asking post-reading WH-review questions or finished the book. Although not targeted in the original research questions, the investigator chose to analyze these strategies.

**Forced-choice questions.** The investigator recorded the number of times the VIs asked forced-choice questions during the pre- and post-training readings. VI01 asked 4 and 14 forced-choice questions in the pre-training readings, then asked 21 and 6 in the post-training readings. VI02 asked 5 forced-choice questions in the pre-training readings, then asked 13 and 8 in the post-training readings. VI03 did not ask forced-choice questions in either pre-training reading, then asked 15 and 16 in post-trainings readings. VI04 did not ask forced-choice questions in either pre-training reading, then asked 1 and 2 questions in the post-training readings. VI05 asked 10 and 17 forced-choice questions in pre-training readings and also asked 10 and 17 questions in post-training readings. On average, VI01, VI02, and VI04 asked more forced-choice questions in post-training readings. The number of forced-choice questions asked by VIs across the four readings are displayed in Figure 11.



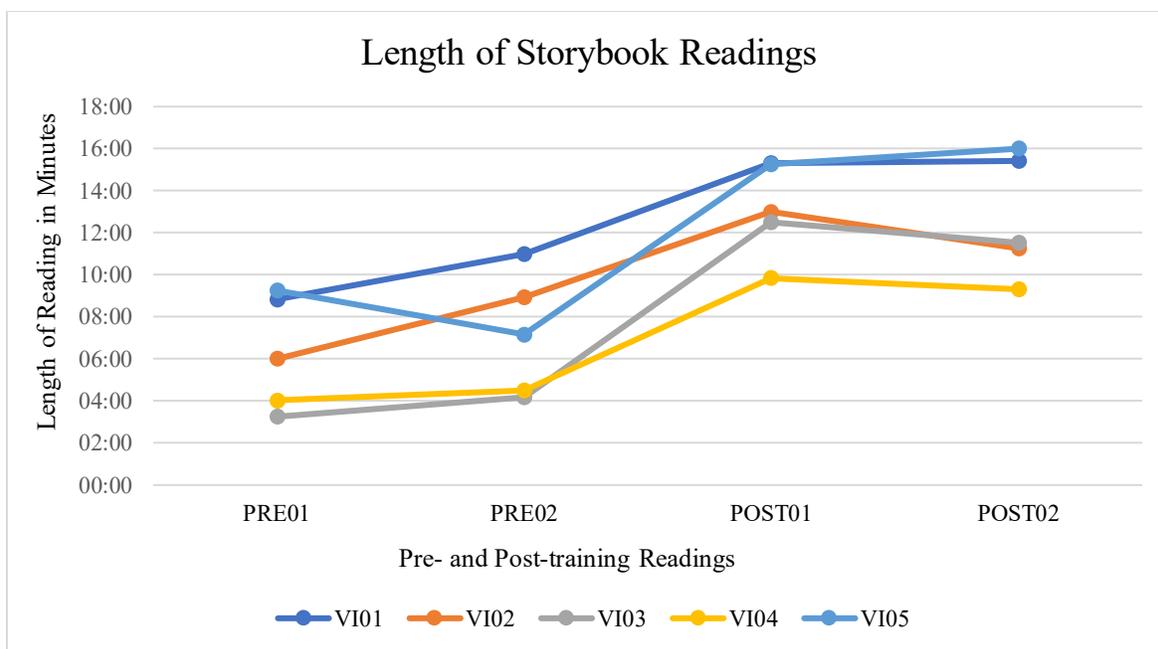
**Figure 11.** This figure shows the number of forced-choice questions asked by individual VIs across the pre- and post-training storybook readings.

**Repetitions.** The investigator recorded the number of times the VIs repeated a child's response or utterance during the pre- and post-training readings. The investigator measured the total number of times that the VI repeated the children's comments or responses to WH-questions during the reading. One VI (VI03) increased use of repetitions after the training even though the training did not address repetitions. VI03 did not provide repetitions of child responses/comments in either pre-training readings but provided 12 and 6 repetitions of child responses/comments in post-trainings readings. VI01, VI02, VI04, and VI05 generally maintained the number of repetitions of child responses from pre- to post-training readings. The number of VI repetitions of child responses or comments across the four readings are displayed in Figure 12.



**Figure 12.** This figure shows the number of repetitions of child responses or comments by individual VIs across the pre- and post-training storybook readings.

**Time of readings.** The investigator did not pursue analysis of reading time in the initial research question, but during videos analysis process, noticed changes in the lengths of the storybook reading sessions across all five VIs. To measure changes in reading times, the investigator compared the storybook reading lengths in both pre- and post-training readings across VIs. The investigator recorded the length of interactions from the moment the VIs introduced the SGE visual aid or book title until they stopped asking post-reading review questions or finished the book. Overall, each VI increased their storybook reading lengths by about four minutes from pre- to post-training readings. See the breakdown of lengths across VIs over all four readings in Figure 13.



**Figure 13.** This figure shows the length of reading interactions by individual VIs across the pre- and post-training storybook readings.

### Discussion

The purpose of the study was to examine the feasibility of instruction facilitated by the preschool classroom volunteers at Operation Breakthrough, an Early Head Start and Head Start program in Kansas City, MO. The study aimed to provide a professional development training program geared toward language and literacy facilitation strategies with the intent of increasing the instructional skills of classroom volunteers at Operation Breakthrough. Target language and literacy intervention strategies included the use of WH-questions, expansions of child responses/comments, and explicit instruction of narrative SGEs with the use of visual aids during small group (2 or 3 preschool students) interactive storybook readings. The investigator asked if it was feasible for preschool classroom volunteers to facilitate literacy and language instruction using evidence-based strategies within a small group interactive storybook reading experience after participating in a professional development training?

The investigator predicted that the classroom volunteers' frequency of language facilitation strategies and narrative language instruction would increase after their participation in a three-hour professional development training program. After the professional development training, VIs asked more WH-questions, provided more expansions and explicit instruction of narrative SGEs with the use of visual aids, but there was variability among VIs. Changes were also seen in other untrained interaction strategies that were not initially considered such as forced-choice question asking, repetitions of child responses, and overall length of story book interactions.

### **Gains in Trained Strategies**

The training targeted asking WH-questions to encourage story comprehension, increase child interactions with the story, and to elicit opportunities for expansions. After participating in the training, four of the five (80%) VIs increased their use of WH-questions (who, what, when, where, why, how) during storybook readings and one maintained an already large number of WH-questions (14-19). The increase or maintenance in WH-questions asking across VIs suggests the training may have contributed to the VIs gains in this skill. The largest gain was seen in VI03 who did not ask WH-questions in pre-training readings, then asked 18-22 WH-questions in post-training readings. Overall, across participants, the number of WH-questions asked increased in the post-training readings, allowing for more interaction and response opportunities for the children in the small groups. It is worth noting that most of the volunteers generated WH-questions while previewing the books, then used sticky notes to plan for their questions. VIs did not limit themselves to their utilization of the pre-recorded questions, however, as many spontaneously asked WH-questions in addition to those that they had planned for. The gains in

VI WH-question use are consistent with the meta-analysis by Towson et al. (2017) which found adults were able to increase their asking of WH-questions with training.

The training also targeted explicit instruction of narrative SGEs (characters, setting, problem, fixing the problem, solution) through various reference types with hopes to increase the children's understanding and recognition of the SGEs within fictional stories. The number and types of references to the SGEs made by the VIs in post-training readings suggest the training was successful in helping the VIs to provide explicit narrative SGE instruction. Within each reading there were 20 SGE reference opportunities. All VIs had a score of zero references during the pre-training readings (no references to the SGEs were made) and the total number of references to the SGEs (out of 20) increased by 10-18 across participants during post-training readings. These increases suggest the training had an impact on the VIs' abilities to provide explicit SGE instruction.

Overall, four of the five VIs (VI02-VI05) consistently referred to every SGE with at least two of the four reference methods during post-training readings. The majority of VIs had this result, which suggests some reference types were easier to incorporate than others. The investigator broke down the SGE references even further to determine which of the SGEs were referred to most frequently by the VIs. Overall, VIs made the most references to setting (85%) followed by characters (83%), then problem (65%), fixing the problem (62%), and solution (55%) was referred to the least. This suggests the training best served character, setting, and problem identification but needed to provide additional support for VIs to reference fixing the problem and solution. This difference is important to note because the sequence of problem, actions to solve the problem, and solution are important to oral and written narrative language comprehension.

The investigator also analyzed the type of SGE reference (names, definitions, book specific elements, and physical references to the visual aid) that occurred most frequently. Combined, VIs had the same number of opportunities to use an SGE name, definition, book specific elements, or physically refer to the visual aid icons. VIs used book specific exemplars the most (94%), followed by the SGEs names (84%), then physically referring to the icons (76%). Definitions were used the least (26%) by VIs. This suggests inclusion of SGE definitions within the story were the most difficult and the training had a weakness in this area.

The VIs were also asked to use the visual aid pre- and post-reading to supplement SGE instruction. The investigator recorded the presence or absence of VI's verbal and physical introductions of the purpose of the SGE visual aid prior to reading. Prior to their participation in the training, none of the VIs introduced the SGE visual aid. After the training, most of the VIs (80%) introduced the purpose of the visual aid to the children at the start of the storybook interaction, indicating the introduction of the tool was consistently feasible. The VI (VI01) who did not introduce the visual aid in the post-training readings did use the visual aid within the storybook readings but reported that it was difficult to remember that strategy when trying to establish control and expectations for the small group. The introduction of the SGE visual aid purpose was not paired with any other tasks, therefore, reducing pre-reading demands on the VI. The VIs may have changed their introduction of the SGE visual aid if other strategies or demands were added to the pre-reading process.

The training also targeted the VIs' use of the visual aid after the books were read. Recall that the VIs used the visual aid when asking WH-review questions to aid in the children's recall of SGEs. Pre-training, none of the VIs used the visual aid to ask the review questions, despite having the tool placed in front of them, with the questions written out. There was one instance

where a VI asked two of the WH-review questions (fixing problem and solution), but only after a child picked up the visual aid and asked the VI to read what was on the back. After the training, the VIs consistently mentioned all five of the SGEs using the visual aid in some manner, though they did not always ask the target WH-review questions. VIs consistently used the visual aid with other non-targeted strategies such as forced choice questions or by modeling the answers to WH-review questions. For the most part, VIs asked three to five of the five possible WH-review questions. There was one instance where a VI (VI04) only asked one WH-review question in a post-training reading but used other methods to address the SGE. They either asked a forced-choice questions (i.e., “Do you know who the character is?” rather than “Who was the character/the story about?”) or modeled an answer rather than allowing the children to respond. The increased occurrence of SGE visual aid use to ask WH-review questions suggests that training may have been helpful in teaching the VIs to reference the SGEs with the children in conjunction with use of the visual aid.

The training also targeted expansions of child responses to WH-questions or comments to demonstrate how to use longer and more detailed utterances. During the readings, all the VIs increased their total number of expansions of child responses or comments, but the gains varied in amount. VI02 and VI03 experienced large gains as they provided 14-23 more expansions in the post-training readings. VI04 and VI05 experienced moderate gains of 6-10 expansions. VI01 made the least gains in this area and provided an average of 2 more expansions in the post-training readings. Although gains were present, they were not consistent across VIs. This variable may have been affected by VI confidence and the comment/response rate of children in the small groups that provided the VIs opportunities to expand. It is also worth noting that the VI who made the least gains in expansions (VI01) was observed to frequently ask a WH-question

and then model the answer to her own questions, allowing for less opportunities for children to respond and impacting her ability to expand. The response rate of the children would be worth looking at in the future to get a more accurate picture of how often VIs were taking advantage of the opportunities to expand on child utterances. The gains in VI expansion provisions are consistent with the meta-analysis by Towson et al. (2017) which found adults used more expansions following training.

### **Gains in Untrained Strategies**

As mentioned in the results section, some VIs maintained or increased use of strategies across readings that were not targeted in the training. One VI (VI05) used forced-choice questions pre-training and maintained their use post-training (VI05), but VI01, VI02, VI03 increased their use of forced-choice questions in post-training readings. It is possible that these types of questions occurred in attempts to spontaneously generate WH-questions. While the interaction piece is there, those questions were not the target of the training. They offer opportunities to respond, but often limit the child's response options and the VIs' opportunity to expand, as opposed to WH-questions which sometimes allow children more freedom. VIs may need different or additional training, feedback, or support to increase the number of WH-questions asked as opposed to forced-choice questions. Additionally, one VI (VI03) increased use of repetitions of child responses or comments in the post-training readings. These repetitions may have occurred during attempts to expand on child responses or comments. Repetitions were not negative interactions, but if they were attempts at expansions, this may indicate more training or feedback is needed for VIs to turn repetitions into expansions.

Time was another variable that increased across all participants into their post-training readings. This is an unexpected positive result as more time spent within the reading suggests the

VIs elaborated more on pages and thus allowed for more language input and interaction opportunities with the children. The increased times inadvertently aligned with the suggestion of Trivette & Dunst (2007) to keep preschool reading experiences at about 15-minutes long. At this time, the investigator examined the total length of reading interactions. Breaking down the interactions further to examine increases in adult versus child talking time may yield more information. The natural increase in occurrence in the untrained areas suggest they may be worth measuring and exploring in future studies.

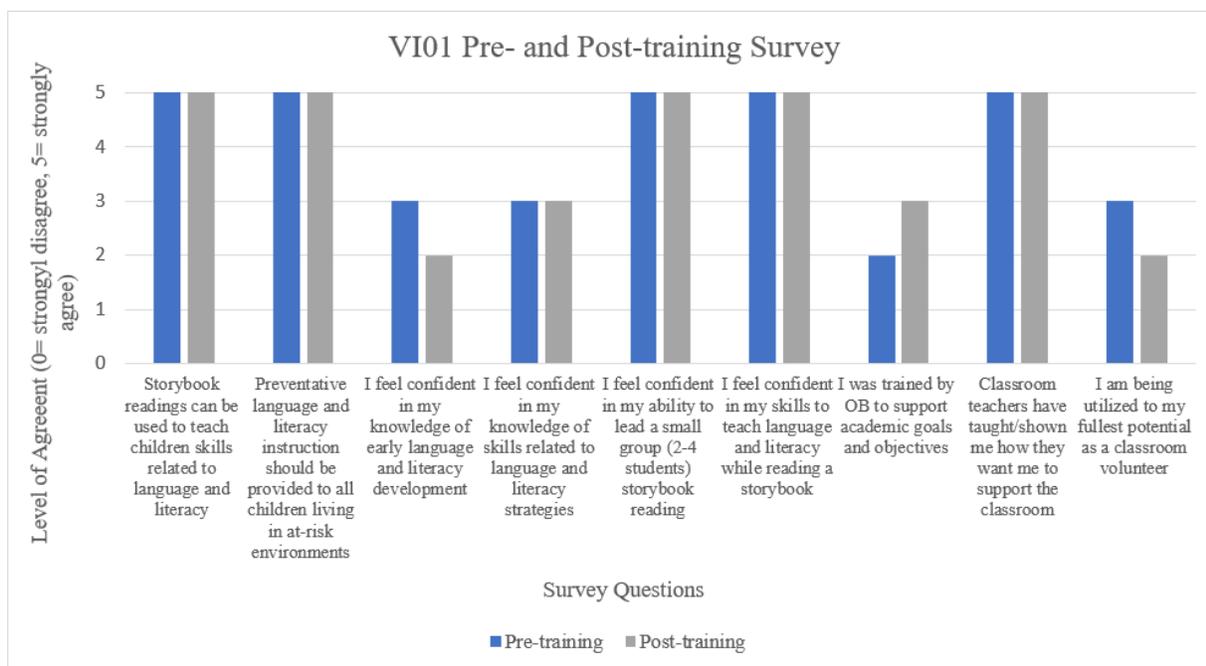
### **Individual Volunteer Instructor Change**

After receiving the training, VIs demonstrated different strengths, areas to improve, post-training reflections, and perspectives on the pre- and post-training survey. The investigator examined these elements within individuals to gather more information about the feasibility of using this program with volunteers.

*VI01* was a 63-year-old female who was currently employed and had been volunteering at Operation Breakthrough for 2 years. She came into the study having had experience raising her own children and had previously read stories to children through another volunteer organization. She was primarily playing with children in the classroom playtime. VI01 entered the study with a strong ability to ask WH-questions (15-19 questions per reading) and ask forced-choice questions (not a training target variable) within her small group readings. After participating in the training, VI01 consistently asked WH-questions, increased her verbal references to SGEs, and increased the overall length of her storybook readings (not a training target variable). VI01 minimally increased (1-2) her use of expansions of child responses or comments during the readings. She also inconsistently used the visual aid as a tool to facilitate SGE instruction pre-, during-, and post-reading.

In her post-training reflection, VI01 reported that finding and incorporating the SGEs was the easiest part of the process, especially with the visual aid as a resource during book preparation. She was confident in her ability to generate and ask WH-questions during the readings. VI01 reported expanding on child responses was the hardest task and wished she had more practice with it. VI01 reported that, in the moment, it was hard to figure out how to add more information to a child's utterance while managing the other elements of small group. VI01 reported the most beneficial part of the training process was when the instructor previewed the book with her and they worked on finding places to talk about the SGEs, ask questions, and role-play expansions. VI also reported having multiple opportunities to practice the same book was helpful as well as receiving feedback immediately after readings. She reported the lecture gave good context and the video was helpful to see it all happening at once.

When asked for suggestions to improve the study, VI01 expressed the location was not ideal, and she wished that she'd had even more opportunities to get feedback. She reported that the experience was eye-opening and that she could start doing these things while in the classroom with the students. Results of her pre-post training survey (see figure 14 below) demonstrated that despite having difficulty using some of the strategies (Manipulation of the visual aid, expansions), VI01 maintained a high level of agreement on the survey questions examining confidence in storybook readings and utilization of strategies. Her rating of confidence in early language and literacy knowledge decreased. This corresponded with her conversations with the investigator stating that she had no idea that she could use books to facilitate language and literacy in these ways, potentially revealing a gap in knowledge.



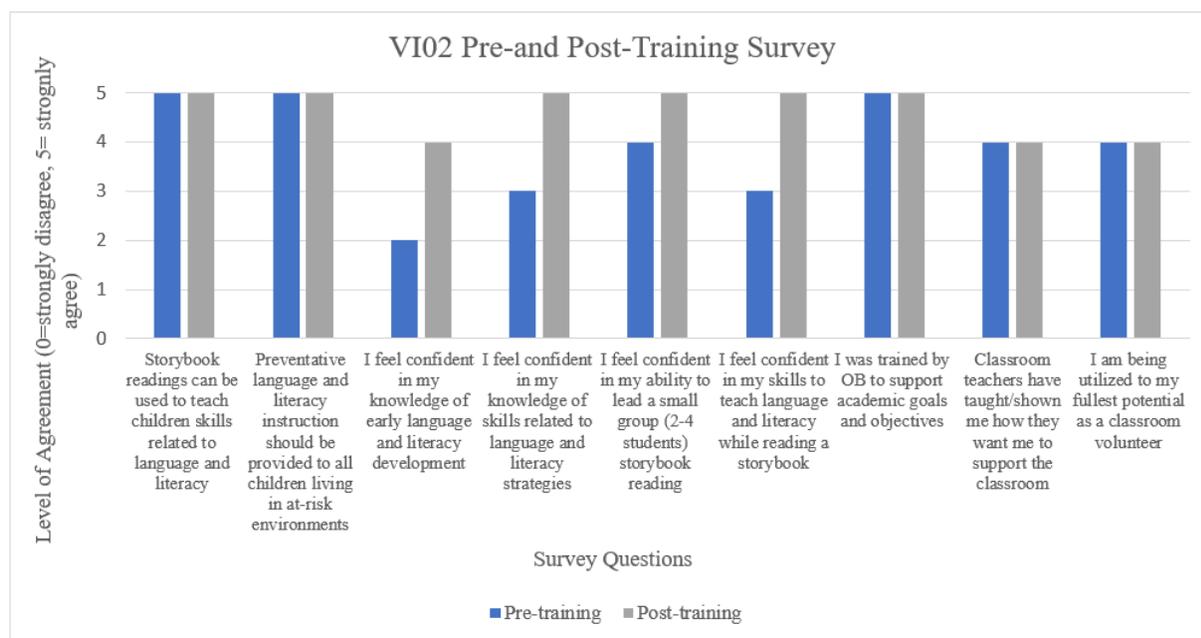
**Figure 14.** This figure compares VI01's survey responses from the pre- and post-training surveys.

*VI02* was a 23-year-old female student who had been volunteering at Operation Breakthrough for 1.5 years. She came into the study having had no experience with children other than at OB. She was primarily playing with children in the classroom playtime and assisting with classroom behaviors. Before the training, *VI02* asked a few WH-questions and forced-choice questions (not a training target variable) within her small group readings. After participating in the training, *VI02* consistently asked a large number of WH-questions, provided a large number of expansions of child responses or comments, increased her provision of SGE references, and increased the overall length of her storybook readings (not a training target variable). *VI02* increased her use of all strategy targets.

In the post-training reflection, *VI02* reported that she felt most comfortable expanding on child responses. *VI02* reported she had the most trouble with generating the WH-questions and determining where to talk about the SGEs while previewing the book. While the VI may have

reported this, the data within her actual post-training readings suggested she was able to consistently ask questions and refer to the SGEs. VI02 reported the most beneficial part of the training process were practice sessions 3 and 4 where she had multiple opportunities to preview books and think about how to include the strategies, practice with students, then receive immediate feedback.

When asked for suggestions to improve the study, VI02 would not make any changes to the process and reported it gave her useful skills to implement in her time volunteering at OB. Results of her pre-post training survey (see figure 15 below) demonstrate VI02 increased her level of agreement across all questions and reported gain in confidence in both leading storybook readings and using the language and literacy strategies within them.



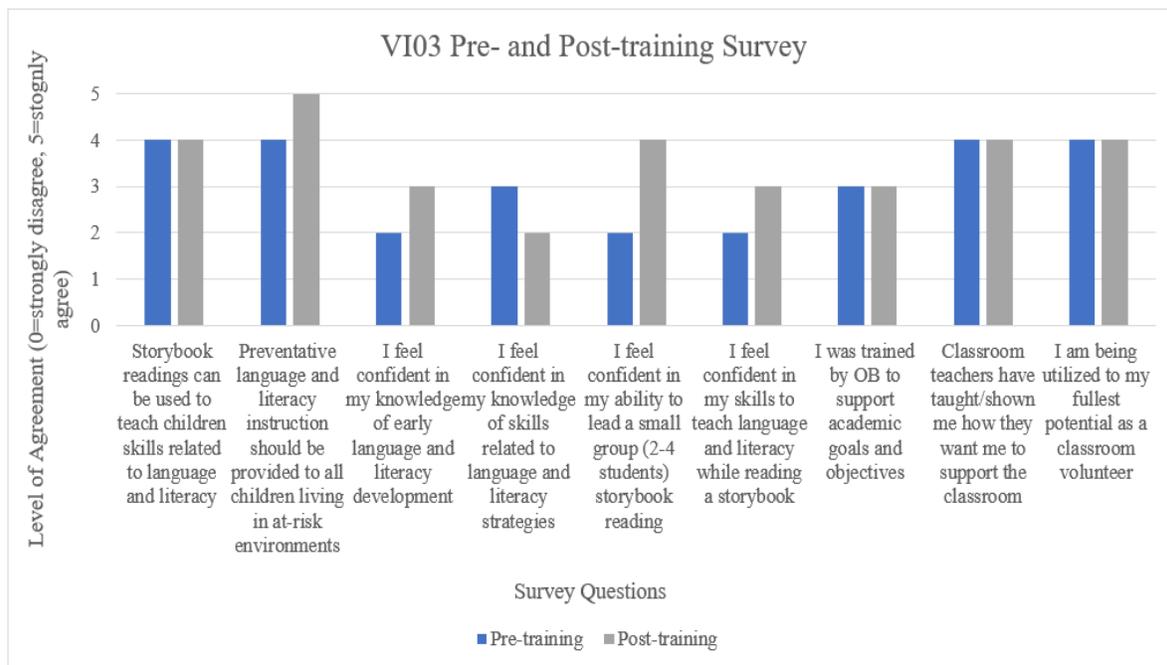
**Figure 15.** This figure compares VI02’s survey responses from the pre- and post-training surveys.

**VI03** was a 23-year-old male who was employed and had been volunteering at Operation Breakthrough for 5 months. He came into the study having had also briefly volunteered in a

kindergarten classroom where his role was not specified. He was primarily playing with OB children in the classroom playtime, assisting with classroom behaviors, and helping with cleaning tasks. Before the training, VI03 did not use any target interactive reading strategies. After participating in the training, VI03 consistently asked a large number of WH-questions, provided more expansions of child responses or comments, increased his provision of SGE references, and increased the overall length of his storybook readings, number of forced-choice questions, and repetitions of child responses/comments (not training targets). VI03 increased his use of all strategy targets.

In the post-training reflection, VI03 reported he felt most comfortable generating/asking the WH-questions and expanding on child responses. VI03 believed this was the most engaging way interact with the students. VI03 reported the most difficult piece was keeping the children engaged in the WH-review SGE questions. VI03 reported the most beneficial part of the training process was practice session 3 and 4 where there were multiple opportunities to preview books and think about how to include the strategies then practice and receive immediate feedback.

When asked for suggestions to improve the study, VI03 reported that if anything, make the lecture portion shorter to allow for even more hands-on practice and feedback because that was the most beneficial piece. Results of his pre-post training survey (see figure 16 below) demonstrated that after the training, VI03 gained confidence in his knowledge of language and literacy development, ability to lead a small group and ability to use strategies. He reported a decrease in his overall knowledge of strategies.

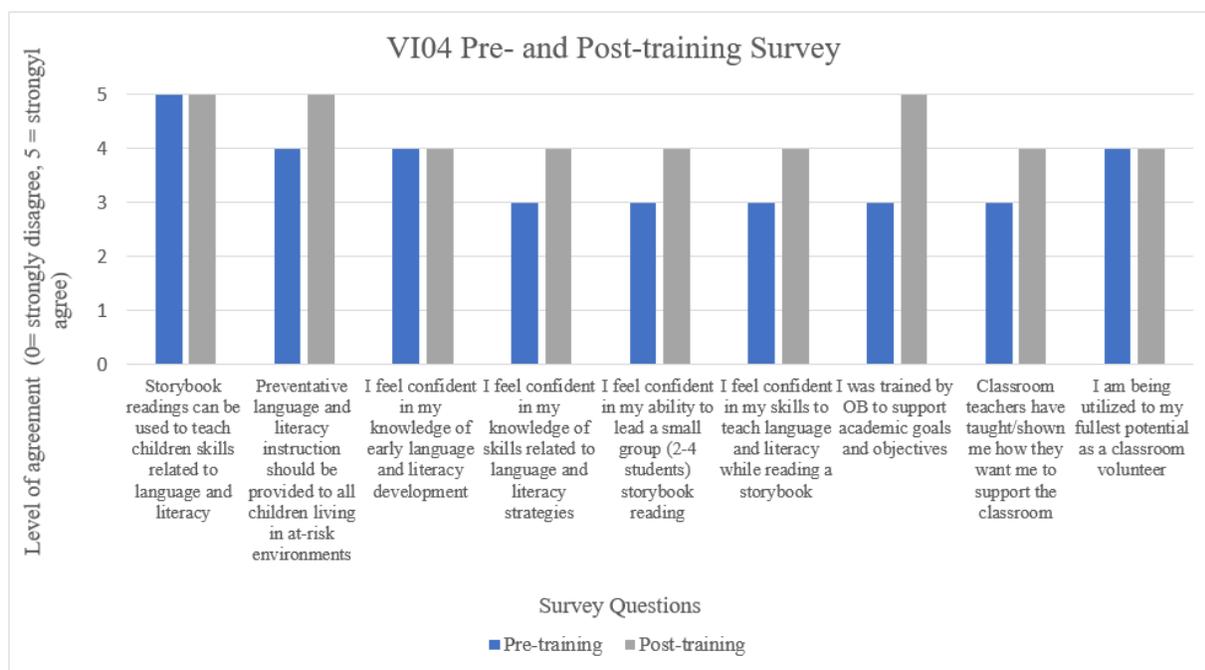


**Figure 16.** This figure compares VI03's survey responses from the pre- and post-training surveys.

**VI04** was a 21-year-old male who was a student and had been volunteering at Operation Breakthrough for 3 months. He came into the study having had also briefly volunteered as a camp counselor and youth basketball coach. He was primarily playing with children in the classroom playtime and helping with cleaning tasks. Before training, VI04 did not use any target interactive reading strategies. After participating in the training, VI04 consistently asked a large number of WH-questions, increased his provision of SGE references, and increased the overall length of his storybook readings (not a training targeted strategy).

In the post-training reflection, VI04 reported that he felt most comfortable expanding on child responses and generating the WH-questions. The most difficult part was maneuvering the visual aid tool while reading the book. Although he asked the final WH-questions, he reported that felt like he could have done a better job eliciting responses from children. VI04 reported the lecture was helpful but the most beneficial parts of the training were practice sessions 3 and 4, doing repeated readings, and the chance to immediately apply feedback from the investigator.

When asked for suggestions to improve the study, VI04 would not make any changes to the process, and reflected that he saw changes in his own skills. Results of his pre-post training survey (see figure 17 below) demonstrate after the training, he increased confidence in his knowledge of language and literacy development and his abilities to lead small groups and use the intervention strategies.



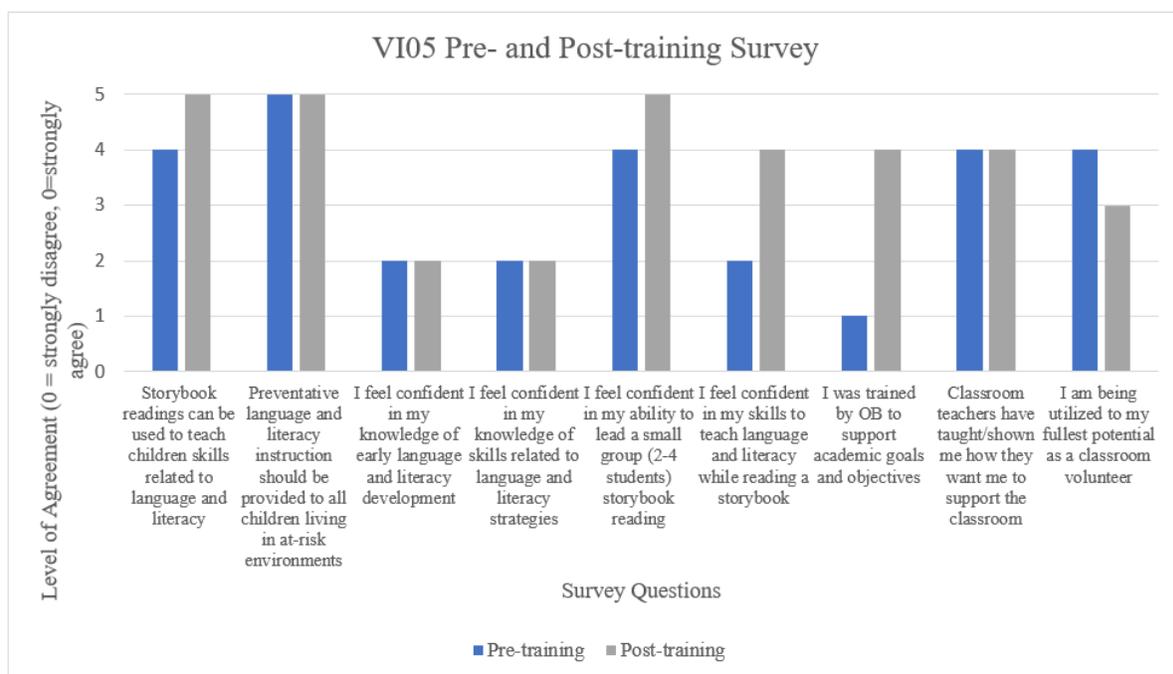
**Figure 17.** This figure compares VI04's survey responses from the pre- and post-training surveys.

**VI05** was a 61-year-old female who was retired but previously taught high school English. She had been volunteering at Operation Breakthrough for 4 years. She was playing with children during the classroom playtime, helping with cleaning tasks, helping with behaviors, and assisted in story time by supporting students in the circle. Before training, VI05 asked a large number of WH-questions (8-14) and forced-choice questions (15-17) (not a training target). After participating in the training, VI05 increased her use of WH-questions, and increased her

provision of SGE references. She also increased the overall length of her storybook readings and the number of forced-choice questions asked (not training targets).

In the post-training reflection, VI05 reported she felt most comfortable expanding on child responses and generating the WH-questions. She reported the most difficult part was maneuvering the visual aid tool while reading the book. VI05 reported the lecture and video models helped her visualize what was expected of her in the study. She noted that previewing books and using paper tabs as cues was a helpful tool. VI05 stated the practice sessions 3 and 4 helped her become comfortable and confident.

When asked for suggestions to improve the study, VI05 asked for more practice opportunities and suggested a different style for the visual aid (nothing specific). Results of her pre- and post-training survey (see figure 18) demonstrated she maintained or increased confidence in all areas after receiving the training.



**Figure 18.** This figure compares VI05's survey responses from the pre- and post-training surveys.

At the conclusion of the study, the VIs had varied strengths and weaknesses with strategy usage, but each made gains in some or all the strategies targeted in the training. All VIs increased their inclusion of references to SGEs. All increased the length of their post-training readings, suggesting they provided more language input and VI-child interactions. All of the VIs reported the most beneficial part of the training was the hands-on training and immediate provision of feedback. At the conclusion of the study all VIs reported they enjoyed their experience in the study, felt better equipped to support children in their roles as classroom volunteers, and recognized the power of interactive storybook readings with children.

### **Limitations**

The low number of participants (5) served as a limitation in the study. The schedule of the investigator only allowed for the training of 5 participants. The inclusion of a larger number of participants may have yielded additional information about the effects of the professional training. A larger pool of participants may have allowed for statistical analysis. Because of the high need of all the children in the Head Start, and wanting to serve as many volunteers and possible, the investigator did not include a control group. This was also a limitation because there was not a non-training control group to compare to the experimental pre- and post-training reading group data. A control group-experimental group comparison may have strengthened the results of the professional development training.

Another limitation was that the small groups comprised different children each time. While the volunteers worked within the same classrooms throughout the study, the children in the small groups pulled from the rooms rotated. The use of inconsistent groups of children required the VIs to manage differing levels of participation, responsiveness, attention, and behavioral skill during every reading. Some groups required more behavior management, which

may have taken away from the number of WH-questions asked, expansions, and references to SGEs provided. Additionally, some children were more responsive than others, which allowed some VIs more opportunities to expand on child utterances than others. To strengthen the results of the professional development training, the investigator could have VIs repeatedly serve the same children in small groups.

The location of the interactive storybook readings was a limitation to the study. The readings took place in the same secluded hallway, but the area was not closed off to foot traffic from other staff, children, and parents. The location may have contributed to distractors for both the volunteer instructors and the children participating in the readings. Distractions may have reduced the amount of language facilitation strategies used by the volunteer instructors and the responses of the children. However, it is worth noting that while this was a limitation of the study, it also served as a representation of the study's ecological validity and generalization of findings to real-world settings. Ecological validity supports the success of the training on VI strategy use in real-life classroom environments.

Another limitation was the constant presence of other Head Start staff. To comply with building policy, the small groups needed to be accompanied by an Operation Breakthrough staff member that had safety training and could serve within the classrooms' child to teacher ratio. A paraprofessional, teacher, or behavioral support staff member were always present for the readings. Staff members were generally sitting at the end of the hallway and did not interfere with the interactive storybook readings. Despite their limited role in the experience, their presence may have affected VI performance, positively or negatively. With another observer present, they may have used more strategies than if they were observed alone to demonstrate their skills to another. The VIs also may have used less strategies than if alone because they may have been

intimidated by the presence of another staff member. The same limitations may have also occurred due to the investigator's constant presence in the readings.

The books selected by the investigator may have served as limitations to the study. The books used throughout the study were selected by the investigator, not the VIs or the children, therefore their willingness to interact with the book may have been deterred by a lack of interest in the story. The use of VI-chosen or child-chosen books may have increased their interest and willingness to engage with storybook interactions.

The design of the SGE visual aid tool may have served as a limitation to the study. While some of the VIs had success using the SGE visual aid, some VIs used the visual aid inconsistently and even reported that it was difficult to manage (VI04, VI05). In their final reflections, VI04 and VI05 suggested having more practice with the tool or using a different format of the visual aid in general. Comfort level with using the tool may have affected how it was used by the VIs during the reading, therefore may have impacted the number of references to the SGEs or final review questions asked.

Lastly, the timeline of the study completion varied per VI and may have affected the results of the study. All five VIs completed all sessions (1-5) over the course of eight weeks but some had larger breaks between training sessions than others. Although the investigator reviewed the strategies before sessions 3 and 4, the variations in schedules may have affected the results of the training on VI strategy usage during post-training readings.

### **Clinical Implications**

Overall, the VIs responded well to the training by increasing their use of some or all of the target language and literacy facilitation strategies in storybook readings. As noted, more than one-million adults volunteered across Head Start programs nationally in 2017 and many were

parents of children enrolled in Head Start programs (HSPF, 2018). The results of this study demonstrate that volunteers can learn to use language facilitation and literacy instructional strategies, providing potentially powerful learning experiences to preschool children. The sheer number of Head Start volunteers suggests they could be a valuable population to explore, especially when considering the at-risk status of children and the high demands placed on Head Start teachers. Additionally, because many of the volunteers are also parents of the children enrolled in Head Start, the training would provide them with tools and strategies to use at home as well.

Information gathered from this study will hopefully provide feedback to Operation Breakthrough regarding potential for growth for the volunteer role within the classroom. A deidentified summary of results of the pre-post surveys, post-training reflection, and pre-post strategy usage will be provided to Operation Breakthrough volunteer department administrators and staff. This information may be used to change their current volunteer department trainings and protocols, and perhaps bring to light the untapped potential of their classroom volunteers.

### **Future Research Implications**

The findings of this study suggest the role and power of volunteers in Head Start settings is worth exploring. Future research can examine the effect of the current training with a larger pool of volunteers and perhaps include a control group to allow for more meaningful statistical analysis. Additionally, the results of the study demonstrate change occurred within the participants interactive storybook reading strategy use after participating in a 3-hour professional development training, but future research can create more efficient trainings by examining if the provision of less training leads to the same positive results. It is worth noting that a few of the VIs were able to use strategies that were only briefly introduced via the lecture portion of the

training (i.e., including tier two vocabulary instruction and definitions). The strategy use with brief instruction suggests training variations should be explored for training efficiency.

Modifications of the training could take the form of providing hands-on trainings alone or perhaps variations in the type and frequency of feedback. Further examination of the training format may streamline the power of the training, making it more feasible to incorporate into Head Start or other preschool settings.

Now that volunteers have been determined to potentially serve as powerful instructors in preschool classrooms, future research should shift to examine child outcome data after their participation in small group interactive storybook readings led by trained volunteers. Future research should explore if participation in interactive storybook readings geared toward narrative language affects children's expressive language, language comprehension, and narrative language skills. These skills have been linked to later reading, social, and academics success, therefore, further examination of intervention outcomes in these areas is essential for determining how to best support at-risk, low-income preschool children in as many capacities as possible during their critical years of development.

### **Conclusion**

Poverty has adverse long-term effects on child development including access to language and literacy experiences. Research supports the use of interactive storybook reading strategies to improve the language skills of children at-risk for delays due to their low-income environments. This study examined how to improve the skills of adult volunteers in an educational entity that serves low-income children and communities. Ideally, all those serving at-risk children in classroom environments should be equipped with skills to maximize the impact of their time spent in classrooms. The findings of this study suggest that, when provided quality and

interactive professional development training, volunteers gained skills and confidence in providing language and literacy instruction for children living in at-risk environments. The study findings indicate volunteers have the potential to serve low-income, at-risk children in a greater capacity by providing interactive shared storybook reading experiences geared toward story grammar elements and acquisition of narrative language skills.

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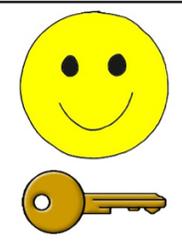
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## Appendices

### Appendix A

Character	Setting	Problem	Fixing the Problem	Solution
				
<p><b>The characters are the people or animals in the story.</b></p> <p>Who are the characters in the story?</p>	<p><b>The setting is where the story happens.</b></p> <p>Where was the setting in the story?</p>	<p><b>The problem is something that causes the character trouble.</b></p> <p>What was the problem in the story?</p>	<p><b>Characters can try to fix their problem.</b></p> <p>How did the character try to fix the problem?</p>	<p><b>The solution is how the story ends.</b></p> <p>How did the story end?</p>

*Note:* The story grammar element visual aid was an 11 x 2-inch strip. Five 3 x 3-inch picture icons were fastened with Velcro adhesives to the front of the strip. The text boxes listed below the picture icons (above) were located on the back of each picture icon.

## Appendix B

## PROFESSIONAL DEVELOPMENT OPPORTUNITY FOR CLASSROOM VOLUNTEERS

If you are a preschool classroom volunteer, you are invited to participate in a research opportunity and professional development training on story book reading strategies with preschoolers.

Thank you for serving the Operation Breakthrough community and families. Your time and efforts are appreciated and valued by staff and children.

### WHO CAN PARTICIPATE IN THE STUDY?

Classroom volunteers aged 18-65+ years who have been serving Operation Breakthrough preschool rooms for at least three months.

### WHERE WILL IT TAKE PLACE?

All training sessions will take place at Operation Breakthrough.

### WHEN WILL IT TAKE PLACE?

All training will occur between October 15-December 7, 2018. Specific dates will be scheduled with classroom volunteer participants.

### WHAT IS THE COMMITMENT?

The total time commitment is approximately 4-5 hours, but no more than 8 hours. Participants must be available for five sessions of approximately 45-60 minutes completed over a three to four-week period. Specific dates and times for training and small group reading sessions will be set upon recruitment of volunteer instructors.

### BENEFITS OF STUDY PARTICIPATION INCLUDE:

Provision of feedback to OB staff regarding the potential for growth in the volunteer program.  
Provision of extended instruction related to language and literacy to volunteer instructors.  
Provision of additional learning opportunities for the children at Operation Breakthrough.

### OTHER CONSIDERATIONS

Study participation will expose participants to no more risk that what is associated with daily life.

If interested, please contact the project investigator, Jacqueline Schmitt, at [jacquelineschmitt@ku.edu](mailto:jacquelineschmitt@ku.edu).

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## Appendix C

### The Feasibility of Language-Literacy Instruction Facilitated by Preschool Classroom Volunteers

#### INTRODUCTION

The Department of Speech-Language-Hearing: Sciences & Disorders at the University of Kansas supports the practice of protection for human subjects participating in research. The following information is provided for you to decide whether you wish to participate in the present study. You may refuse to sign this form and not participate in this study. You should be aware that even if you agree to participate, you are free to withdraw at any time. If you do withdraw from this study, it will not affect your relationship with this unit, the services it may provide to you, or the University of Kansas.

#### PURPOSE OF THE STUDY

The study will examine the feasibility of instruction facilitated by the volunteers at Operation Breakthrough. The study aims to discover if a professional development program geared toward narrative language and literacy instruction can increase the instructional skills of classroom volunteers at Operation Breakthrough.

#### PROCEDURES

The study seeks to provide an efficient program that is feasible for the volunteer department to extend into their training routine. The study procedures are broken down into pre-training, training, and post-training procedures. It is estimated that volunteers will experience about 45 minutes of pre-training data collection consisting of filling out demographic information, a survey, and completing two story book readings with a small group (2-4) students from their volunteer classrooms at Operation Breakthrough.

Each volunteer will participate in about 2.5-3 hours of training including lectures, explicit instruction, and then explicit practice of language and literacy skills that promote narrative language within a story book. Each volunteer will then complete about 45 minutes of post-training data collection including re-administration of the pre-training survey as well as a reflection of the training. The total study involvement is estimated at about 4-5 hours. While 4-5 hours is the aim of the total time involvement, some volunteers may require additional training, support, and clarification for the training. More time may be offered to individuals who feel as if they need more support, but the time allotment for each subject will stop at 8 hours.

The investigator will pursue a study window of three to four weeks with week one including pre-training data collection, week two and three including professional development training, and week four including post-training data collection. This schedule may need to change, however, once the schedules of the study participants become available.

#### AUDIO/VIDEO RECORDING PROCEDURES

Page 1 of 4



The pre and post-training data collection procedures will include audio and video data collection. The video data collection will document four shared story book readings completed by participants in small group sessions with preschoolers. The videos will record the proceedings of the session which includes the voice and face of the participant leading the session. The participant faces on each video will not be blurred. Participation in the video/audio recording is required for the study, however, participants will have the option to stop the recording/participation at any time.

The leading investigator will have access to the video/audio recordings both during and after data collection procedures. The video/audio recordings will be stored on a secure research server through the University of Kansas Research server. The video/audio recordings will be destroyed in July 2019.

#### RISKS

Study participation will expose you to no more risk than what is associated with daily life.

#### BENEFITS

Those who choose to participate will receive free training related to language and literacy development and instruction for preschool age children. Those who participate will also provide additional learning opportunities for the children at Operation Breakthrough. Research findings will provide feedback to Operation Breakthrough staff regarding the potential for growth in the volunteer program. Analysis of volunteer training outcomes will determine the feasibility of using volunteers as language and literacy instructors.

#### PAYMENT TO PARTICIPANTS

Participants will not be paid.

#### PARTICIPANT CONFIDENTIALITY

Your name will not be associated in any publication or presentation with the information collected about you or with the research findings from this study. Instead, the researcher(s) will use a study number or a pseudonym rather than your name. Your identifiable information will not be shared unless (a) it is required by law or university policy, or (b) you give written permission.

Permission granted on this date to use and disclose your information remains in effect indefinitely. By signing this form, you give permission for the use and disclosure of your information for purposes of this study at any time in the future.

#### REFUSAL TO SIGN CONSENT AND AUTHORIZATION

You are not required to sign this Consent and Authorization form and you may refuse to do so without affecting your right to any services you are receiving or may receive from the University of Kansas or to participate in any programs or events of the University of Kansas. However, if you refuse to sign, you cannot participate in this study.



#### CANCELLING THIS CONSENT AND AUTHORIZATION

You may withdraw your consent to participate in this study at any time. You also have the right to cancel your permission to use and disclose further information collected about you, in writing, at any time, by sending your written request to Jacqueline Schmitt by email to [jacquelineschmitt@ku.edu](mailto:jacquelineschmitt@ku.edu).

If you cancel permission to use your information, the researchers will stop collecting additional information about you. However, the research team may use and disclose information that was gathered before they received your cancellation, as described above.

#### QUESTIONS ABOUT PARTICIPATION

Questions about procedures should be directed to the researcher(s) listed at the end of this consent form.

#### PARTICIPANT CERTIFICATION:

I have read this Consent and Authorization form. I have had the opportunity to ask, and I have received answers to, any questions I had regarding the study. I understand that if I have any additional questions about my rights as a research participant, I may call (785) 864-7429 or (785) 864-7385, write the Human Research Protection Program (HRPP), University of Kansas, 2385 Irving Hill Road, Lawrence, Kansas 66045-7568, or email [irb@ku.edu](mailto:irb@ku.edu).

I agree to take part in this study as a research participant. By my signature I affirm that I am at least 18 years old and that I have received a copy of this Consent and Authorization form.

\_\_\_\_\_

Type/Print Participant's Name

\_\_\_\_\_

Date

\_\_\_\_\_

Participant's Signature

#### Researcher Contact Information

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## Appendix D

### DEMOGRAPHIC INFORMATION

Please fill in the following information.

What is your age? \_\_\_\_\_

How long have you been volunteering at Operation Breakthrough? \_\_\_\_\_

Previous experience with children (Other than at OB) \_\_\_\_\_

❖ Please circle your ethnicity (select all that apply).

- White
- Hispanic or Latino
- Black or African American
- Native American or American Indian
- Asian / Pacific Islander
- Other \_\_\_\_\_

❖ Please circle the highest degree or level of school you have completed. *If currently enrolled, circle the highest degree received.*

- Nursery school to 8<sup>th</sup> grade
- Some high school, no diploma
- High school graduate, diploma or the equivalent
- Some college credit
- Trade/technical/vocational training
- Associate degree
- Bachelor's degree
- Master's degree
- Professional degree
- Doctorate degree

❖ Please circle your employment status (select all that apply).

- Employed for wages
- Self-employed
- Out of work and looking for work
- Out of work but not currently looking for work
- A homemaker
- A student
- Military
- Retired
- Unable to work

❖ In what capacities are you currently being used as a classroom volunteer? (select all that apply).

- Assisting with story time
- Leading small groups
- Joining in with play time
- Completing administrative tasks
- Completing a cleaning task
- Assisting with classroom behaviors
- List others: \_\_\_\_\_

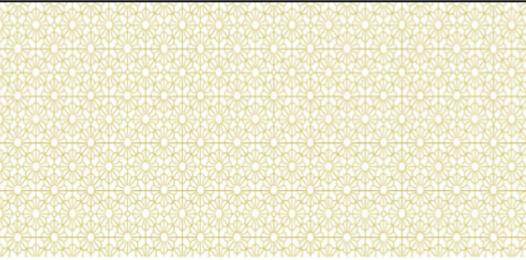
## Appendix E

## PRE & POST-TRAINING LANGUAGE & LITERACY SURVEY

Fill in the circles for each question according to your level of agreement.

Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Story book readings can be used to teach children skills related to language and literacy.	○	○	○	○	○
Preventative language and literacy instruction should be provided to all children living in at-risk environments.	○	○	○	○	○
I feel confident in my knowledge of early language and literacy development.	○	○	○	○	○
I feel confident in my knowledge of skills related to language and literacy strategies.	○	○	○	○	○
I feel confident in my ability to lead a small group (3-4 students) story book reading.	○	○	○	○	○
I feel confident in my skills to teach language and literacy while reading a story book.	○	○	○	○	○
I was trained by OB to support academic goals and objectives.	○	○	○	○	○
Classroom teachers have taught/shown me how they want me to support the classroom.	○	○	○	○	○
I am being utilized to my fullest potential as a classroom volunteer.	○	○	○	○	○

## Appendix F

 <p><b>WHY SHOULD WE BE PROACTIVE?</b></p> <p>The Feasibility of Language-Literacy Instruction Facilitated by Preschool Classroom Volunteers Jacqueline Schmitt</p>	<p><b>WHY SHOULD WE BE PROACTIVE?</b></p> <p>Children living in poverty are at-risk for developing delays in language and literacy development. In particular they have,</p> <ul style="list-style-type: none"> <li>❖ Fewer contexts and practice opportunities to develop narrative skills</li> <li>❖ Weaknesses in story grammar structure: evaluative information and lexical complexity</li> <li>❖ Less skill in phonological awareness and phonemic awareness</li> </ul>
<ul style="list-style-type: none"> <li>• Now that you have taken part in session one, we can begin to dive into the study!</li> <li>• In this ppt, we will discuss the importance of supporting language and literacy development in children, especially those living in low-income environments.</li> <li>• Then we will talk about general ways you can facilitate early language and literacy learning in the classrooms.</li> <li>• After that, we will talk about and practice the specific strategies that we will be targeting in this study.</li> </ul>	<ul style="list-style-type: none"> <li>• Children living in poverty or other related environments are at-risk for developing delays in language and literacy development (Pollard-Durodola et al., 2011). They have fewer narrative contexts and practice opportunities to develop narrative skills (Gutiérrez-Clellen &amp; Quinn, 1993). As they enter school, children with early language delays exhibit weaknesses in story grammar structure, evaluative information, and lexical complexity in their narratives (Manhardt &amp; Rescorla, 2002).</li> <li>• Overall, their story telling abilities and early reading skills are impacted which can have academic, language, and social impacts.</li> <li>• Children in poverty are also at-risk for having less developed skills the areas of phonological and phonemic awareness (the understanding that words are comprised of sounds that change word meaning). We will discuss this more in a few moments.</li> </ul>
<p><b>WHY SHOULD WE BE PROACTIVE?</b></p> <ul style="list-style-type: none"> <li>❖ Vocabulary knowledge is also a predictor of later reading success</li> <li>❖ Children living in poverty hear approximately 30 million less words than higher income peers by age 3</li> <li>❖ If they are hearing less, they are using less diverse vocabulary</li> </ul>	<p><b>STORYBOOK READING INTERACTIONS</b></p> <p>Has been found to improve language and literacy skills of at-risk children (Pollard-Durodola et al., 2011)</p> <p>The students are INVOLVED in the reading! Teachers involve students by:</p> <ul style="list-style-type: none"> <li>❖ Asking open-ended questions/WH questions</li> <li>❖ Demonstrating early literacy skills</li> <li>❖ Teaching new vocabulary words</li> <li>❖ Modeling sound/letter manipulation skills</li> <li>❖ Expanding child responses</li> </ul>
<ul style="list-style-type: none"> <li>• Vocabulary knowledge is another part of language that is also a predictor of later reading success. If students have difficulty with vocabulary early on, they are more likely to have reading difficulties later on.</li> <li>• One of the hallmark studies depicting the impact of SES on vocabulary development was by Hart &amp; Risely (1995). In this study, the researchers recorded 3 groups of children in their natural environments, &amp; looked at children's vocabulary at age 3. Overall they found children living in poverty heard 30 million less words than their higher income peers.</li> <li>• Knowledge of these deficit areas in children in low-income families, has lead researchers to discover how at-risk children can close the gaps in vocabulary, narratives, and other early language and literacy skills.</li> <li>• Studies have examined strategies and methods of intervention or prevention. A widely researched method is storybook readings.</li> </ul>	<ul style="list-style-type: none"> <li>• Because books have natural interaction opportunities, researchers have examined how to maximize the interaction between readers and children. Read aloud interventions that utilize rich language and many interaction opportunities including dialogic book readings, interactive book readings, and shared story book readings have been found to improve language and literacy skills of children (Pollard-Durodola et al., 2011).</li> <li>• Story book interactions allow the students to be involved in the reading. Interactions include things like:</li> <li>• Expanding child responses, asking open-ended questions/WH questions, demonstrating early letter manipulation or book concepts, teaching new vocabulary words, and modeling desired responses.</li> </ul>

## STORYBOOK READING INTERACTIONS CONT...

Explicit teaching of narrative structure or story grammar elements (SGE):

- ❖ Promotes story comprehension
- ❖ Leads to gains in inclusion of SGE within narratives
- ❖ Increases story complexity

- Additionally, children's books often contain simple narratives which allow for explicit teaching of narrative structures. Explicit teaching of narrative structures has shown to promote story comprehension.
- Interventions involving explicit instruction of story grammar elements (SGE) led children to include more SGEs within their own narratives, thus increasing story complexity (Hayward & Schneider, 2000; Spencer & Slocum, 2010).

## CONCEPTS ABOUT PRINT

Author

Illustrator

Title of the story

Turning book pages

Front cover/back cover

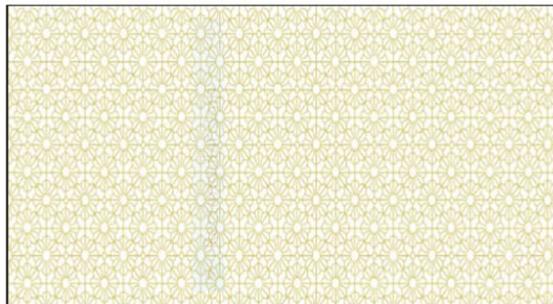
Connection between text and pictures

Direction of print

• Left to right

• Top to bottom

- Within a story book reading, we can draw attention to a variety of early literacy concepts including:
- Teaching that the Author is the person who writes the story/the Illustrator is the person who draws the pictures
- Discussing the Title of the story and the front cover/back cover of the text
- Demonstrating how to turn book pages
- Making connections between the story book text and pictures
- Demonstrating direction of print (left to right and top to bottom)
- You were already doing several of these things in your story reading – great
- Some of these items might seem intuitive, but they are concepts that children learn through adult teaching, models, and examples.



## HOW CAN WE HELP AS VOLUNTEERS?

- In your role, you currently provide support to the teachers and children and are an extremely valuable part of the education team.
- But in addition to ALL of the amazing things you are already doing in the classroom, there are many ways to address the language and literacy areas that we have discussed without formal training.
- Now, we will talk about general ways you can facilitate early language and literacy learning in the classrooms.

## PHONOLOGICAL AWARENESS

❖ Identify and make oral rhymes

❖ Run, Fun, Sun

❖ Clap out the number of syllables in a word

❖ Ex: Apple = Ap-ple

❖ Recognize words with the same initial sounds

❖ Map, Moon, Monkey

## PHONEMIC AWARENESS

❖ Identify the sounds that make up a word

❖ Map is made up of sounds M-A-P

- In addition to pointing out concepts of print, you can incorporate sounds awareness into books or the opportunity to work on phonological awareness. Phonological awareness is the skill of identifying and manipulating units of oral language.
- Phonemic awareness is under the umbrella of phonological awareness and refers to the ability to focus on and manipulate individual sounds in spoken words. Both of these skill areas are vital to early reading development.
- Here are a few simple examples of how to promote these skills within your classrooms.

## PHONOLOGICAL/PHONEMIC AWARENESS

Directly teach sound letter correspondence

❖ Our story starts with **Brown Bear, Brown Bear**. I am seeing lots of letter Bs. The letter B says "b" like in brown and bear.

Directly teach rhyme

❖ **Brown bear, brown bear, what do you see? I see a dog looking at me. Me and see have the same ending. They both say "eee" at the end. They rhyme, me and see.**

Clap out the number of syllables

❖ **How many parts does animal have? Let's clap, A-NI-MAL. Animals has three claps, or three parts.**

- Here are some more examples of how to directly teach or model phonological/phonemic awareness skills:

## VOCABULARY



Pre-teach more advanced words before reading the story.

Today we are going to read a story that includes the word "dash." Dash means to run very quickly.

Provide a definition within the story context.

The kids dashed, or ran very quickly, away.

- As mentioned, books are filled with wonderful words that can enrich our student's language.
- When choosing books with your students, you can browse through the pages and pick a few "harder" words to target/teach during your reading.
- You can introduce the words and their definitions prior to reading or as they appear in the story.

## VOCABULARY

What words to choose?

❖ "Tier 2" words: these are words that are common across contexts but probably not familiar incidentally

❖ Examples: rich verbs, adjectives/adverbs, descriptive nouns



T1: Cave T2: Suddenly T3: Octopus

- When choosing words to target, you can choose between Tier 1, 2, and 3.
- Tier 1 – words that children are typically exposed to in their day to day activities (go, stop, run, happy, sad, eating, sleeping, etc.).
- Tier 2 – words that can be used across multiple contexts but are more advance and less commonly heard than tier 1 (sprinting, swarm, delightful, etc.).
- Tier 3 – words that can rich and descriptive but are context specific (cardiovascular, mitosis, etc.).
- Tier 2 words are the best type of word to target to get the most bang for your buck.
- Let's reading through this paragraph from the "Rainbow Fish" and decide on what words might be tier 2.

## NARRATIVE LANGUAGE

Character

Setting

Problem

Actions to Solve a problem

Solution

- As mentioned before, understanding SGEs is an important skill for children. We can increase understanding through explicit SGE instruction. Explicit instruction of SGEs can include the SGE name (character, setting, problem, fixing the problem, solution), definition, and explicit teaching of the book specific SGEs.
- Definitions of the five SEGS include:
- Characters - the people or animals that the story was about
- Setting - where the story took place
- Problem - what went wrong in the story
- Fixing the problem - what the character did to try and fix/solve their problem
- Solution - how the story ended

### SMALL GROUP ROUTINES

Hold the book where every student can see

Speak with a loud and engaging voice

Vary your pitch and include character voices when you can

Offer WAIT time when you ask questions!!!!

- While you may have the opportunity to conduct a whole group reading, small group readings (2-4 students) allows children more opportunities to speak and participate in the reading experience.
- These are a few tips to help successfully run a small group.

### SMALL GROUP ROUTINES

Give expectations at the start of the reading

❖ We are going to read a story together and I am going to need eyes and ears on me

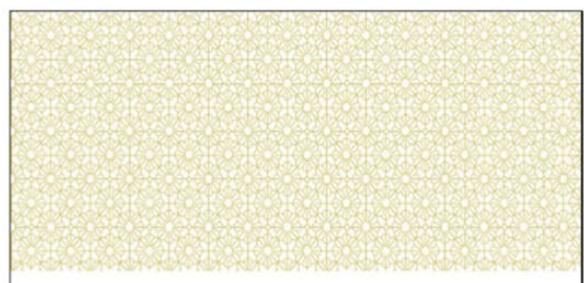
Reinforce positive/desired behaviors

❖ I like how Ben is sitting on his bottom and watching our story

Offer tangible rewards

❖ After we are done reading our story, you get to pick out a sticker

- Here are a few more tips continued...



### LANGUAGE AND LITERACY STRATEGIES TO FOCUS ON

The Feasibility of Language-Literacy Instruction Facilitated by Preschool Classroom Volunteers  
Jacqueline Scheidt

### PRE-READING STRATEGIES

### DURING READING STRATEGIES

### POST-READING STRATEGIES

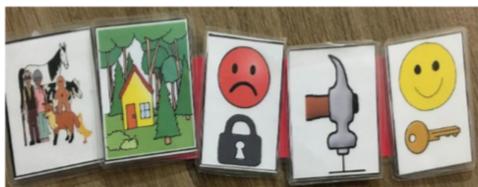
- Now we are going to go over the reading strategies that I really want to promote during our time together over the next few weeks.

- The strategies or skills are broken down into pre-reading, during-reading, and post-reading.
- Pre-reading are those used prior to the instructor opening the book.
- During-reading are those used during the typical book/text reading.
- Post-reading are those used after the storybook is closed.

## PRE-READING STRATEGIES

### Reference to purpose of visual aid

For example while holding the visual aid, the instructor can say "We are going to use these pictures to help tell the story" while pointing to the visual aid strip.



- Pre-reading strategies will include verbal and physical references to the SGE visual aid to introduce its purpose to the children, establishing its use as a teaching tool.
- See example.

## DURING READING STRATEGIES

### WH- Questions

- Who, what, when, where, why, or how

Open ended WH questions VS Direct answer WH questions

- Prediction prompts

(What will happen next?)

- Observation prompts

(What do you see on this page?)

- Comprehension prompts

(Why did he do that? What did he do here? Where did they go, etc.)

- To elicit interactions with the children, ask WH- questions led with who, what, when, where, why, how, or tell me to prompt interactions to predict (e.g., what will happen next?), comprehend (e.g., why did he do that?), comment (what do you think about that?), or describe (e.g., tell me what he looks like).
- Typically, WH questions should be open-ended (have more than one answer) to allow the children to generate their own responses.
- See examples.

## DURING READING STRATEGIES

### Expansion of Child Responses

Repeat the child's response and add information to extend comprehension opportunities



#### Adult Question:

What will rainbow fish do next?

#### Child Response:

Share

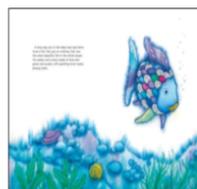
#### Adult Expansion:

You think rainbow fish will share his scales with the little fish.

- If the children responded to the WH-questions or spontaneously commented on the book, repeat the child's response but add information to demonstrate use of a longer, more complex utterance.
- See example.

## DURING READING STRATEGIES

### Reference to SGE using Visual Aid



### Verbal reference to the visual aid

Example:

I see a blue fish with sparkling scales, he must be the character in our story. He is who the story is about.

### Physical reference to the visual aid

Example:

Points to visual aid then says, "the character is rainbow fish."

Pulls Velcro visual off strip and says "the fish is the character in our story."

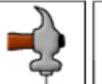
As each of the five SGE appear in the story (character, setting, problem, fixing the problem, solution) attempt to include as many of these pieces in your instruction as possible.

- 1) State the SGE name (character, setting, problem, fixing the problem, solution)
- 2) State the corresponding definition
- 3) State the book-specific element (e.g., Clifford the Big Red Dog is a book specific character)
- 4) Physically point to/pulled off each SGE icon on the VA

See example.

## POST-READING STRATEGIES

Review of Story Grammar Elements (SGE) using WH questions and Visual Aid References

Character	Setting	Problem	Fixing the Problem	Solution
				
The characters are the people or animals in the story. Who are the characters in the story?	The setting is where the story happens. Where was the setting in the story?	The problem is something that causes the character trouble. What was the problem in the story?	Characters can try to fix their problem. How did the character try to fix the problem?	The solution is how the story ends. How did the story end?

- After finishing the story and closing the book, ask the children the following WH-questions related to SGE names or definitions:
- Who were the characters/who was the story about?
- Where was the setting/where did the story take place?
- What was the problem/what went wrong in the story?
- How was the problem fixed/how did the character try to fix the problem?
- What was the solution/how did the story end?

As you ask each question, physically pull off the SGE icon or point to the icon to demonstrate the relationship between the picture and SGE name.

## VIDEO

### VIDEO BREAKDOWN

- We are now going to watch a video of example of what these strategies look like within a small group storybook reading.
- As the strategies are happening, the name will appear in white on the screen. Feel free to pause and ask questions at any point.
- \*\*Play [15-minute](#) video.

## PRACTICE

Generate:

WH Questions

Expansions



- Now we are going to practice some of these skills! **Let's** begin with WH questions. **Take a look** at this page from the "Rainbow Fish." Based on the scene, what kind of WH questions could you ask?
- Great questions! Here are a few other examples: "What is the fish going to say to the Octopus?" "What is the Octopus going to do?" "Where does the Octopus live?" "Why does the Octopus have so many legs?" "Why does the Octopus live in a cave?" "How does the fish feel right now?"
- Now we are going to practice expanding on child comments/responses. I will pretend to be the "child." Ask me the WH questions here, I will respond. Try to expand what I say by repeating what I **say, but** adding more information.
  - "What is the fish going to say to the Octopus?" (hi)
  - "What is the Octopus going to do?" (swim away)
  - "Where does the Octopus live?" (cave)
  - "Why does the Octopus have so many legs?" (eat)
  - "Why does the Octopus live in a cave?" (he afraid)
  - "How does the fish feel right now?" (sad)

## MORE PRACTICE

### THE LITTLEST DRAGON

- Great work! Now we are going to go back through the book "The Littlest Dragon." You all did a wonderful job engaging the children with this book before, but we are going to practice the skills that we just heard about and practiced.
- \*\*\*Have Vis **walk** through book to find SGEs.
- \*\*\*Have Vis **walk** through book to generate at least 5 WH questions.
- \*\*\*Have the Vis ask the WH questions that they **generated** and role play child responses. Prompt them to expand on your response.

GREAT WORK today. Next session, we will begin practicing these strategies in readings with students in your classrooms.

## MORE PRACTICE

### THE LITTLEST DRAGON

- Great work! Now we are going to go back through the book "The Littlest Dragon." You all did a wonderful job engaging the children with this book before, but we are going to practice the skills that we just heard about and practiced.
- \*\*\*Have VIs walk through book to find SGEs.
- \*\*\*Have VIs walk through book to generate at least 5 WH questions.
- \*\*\*Have the VIs ask the WH questions that they generated and role play child responses. Prompt them to expand on your response.

GREAT WORK today. Next session, we will begin practicing these strategies in readings with students in your classrooms.

## Appendix G

### POST-TRAINING REFLECTION

❖ **What strategies were easy to use? Why?**

Remember, there were Pre-Reading (Reference to the SGE Visual Aid), During Reading (Reference to SGE Visual Aid, WH-Questions, Expansions of Child Responses, and Post-Reading (Review of SGE using WH-Questions, Expansions of child responses)

❖ **What strategies were difficult/hard to use? Why?**

Remember there were Pre-Reading (Reference to the SGE Visual Aid), During Reading (Reference to SGE Visual Aid, WH-Questions, Expansions of Child Responses, and Post-Reading (Review of SGE using WH-Questions, Expansions of child responses).



## Appendix H

Pre-Reading Strategies	During Reading Strategies		Post-Reading Strategies																																																																																																																		
<p><b>Verbal Reference to purpose of SGE visual aid</b></p> <p><input type="checkbox"/> Present <input type="checkbox"/> Not Present</p> <p><b>Physical reference to SGE visual aid while stating purpose of visual aid</b></p> <p><input type="checkbox"/> Present <input type="checkbox"/> Not Present</p> <p><b>Additional Notes:</b></p>	<p><b>References SGEs</b></p> <table border="1" data-bbox="407 338 1015 762"> <tr> <td data-bbox="407 338 711 478"> <b>Characters</b>            SGE Name            SGE Definition            Physical Ref to VA            Book Specific Answer         </td> <td data-bbox="711 338 1015 478"> <b>Fixing the problem</b>            SGE Name            SGE Definition            Physical Ref to VA            Book Specific Answer         </td> </tr> <tr> <td data-bbox="407 489 711 625"> <b>Setting</b>            SGE Name            SGE Definition            Physical Ref to VA            Book Specific Answer         </td> <td data-bbox="711 489 1015 625"> <b>Solution/ending</b>            SGE Name            SGE Definition            Physical Ref to VA            Book Specific Answer         </td> </tr> <tr> <td data-bbox="407 636 711 762"> <b>Problem</b>            SGE Name            SGE Definition            Physical Ref to VA            Book Specific Answer         </td> <td data-bbox="711 636 1015 762"> <b>Total:</b> </td> </tr> </table> <p><b># of WH questions</b></p> <p>Open-ended WH questions/prompts (Variety of responses to Q)</p> <table border="1" data-bbox="407 783 1015 982"> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table> <p>Total:</p> <p>Close-ended WH questions/prompts (Only one specific answer)</p> <table border="1" data-bbox="407 1035 1015 1203"> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table> <p>Total:</p> <p>Forced Choice questions/prompts (yes/no, etc.)</p> <table border="1" data-bbox="407 1255 1015 1360"> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table> <p>Total:</p> <p>Expansions of child responses</p> <table border="1" data-bbox="407 1413 1015 1518"> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table> <p>Total:</p> <p>Repetitions of child responses</p> <table border="1" data-bbox="407 1570 1015 1648"> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>		<b>Characters</b> SGE Name SGE Definition Physical Ref to VA Book Specific Answer	<b>Fixing the problem</b> SGE Name SGE Definition Physical Ref to VA Book Specific Answer	<b>Setting</b> SGE Name SGE Definition Physical Ref to VA Book Specific Answer	<b>Solution/ending</b> SGE Name SGE Definition Physical Ref to VA Book Specific Answer	<b>Problem</b> SGE Name SGE Definition Physical Ref to VA Book Specific Answer	<b>Total:</b>																																																																																																										<p><b>Review of Story Grammar Elements:</b></p> <p><b>WH questions including each SGE (Name or definition of SGE can be used in prompt)</b></p> <p><input type="checkbox"/> Who is the <b>character</b>/who is the story about?</p> <p><input type="checkbox"/> What is the <b>setting</b>/where does the story take place?</p> <p><input type="checkbox"/> What is the <b>problem</b>/what went wrong in the story?</p> <p><input type="checkbox"/> How do they <b>fix the problem</b>/what does the character do to try and solve the problem?</p> <p><input type="checkbox"/> What is the <b>solution</b>/how does the story end?</p> <p><b>Review of Story Grammar Elements: visual/physical referral to visual aid</b></p> <p><input type="checkbox"/> Characters <input type="checkbox"/> Setting <input type="checkbox"/> Problem <input type="checkbox"/> What is done to fix the problem <input type="checkbox"/> Solution/Ending</p> <p><b>Additional Notes:</b></p> <p><b>Other language facilitation strategies used during reading:</b></p>			
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Additional qualitative notes about reading (wait time after questions, pacing, small group behaviors, etc.).

Observer Initial:

Date of observation:

VI

**Key**

Open-ended WH= OE

Close-ended WH = CE

Forced choice = FC

Expansion

Repetition

**Pre-Reading**

**During-Reading**

**Post-Reading**

## Appendix I

### **Video Analysis Process Overview**

- Prior to analysis, please type in your initials, the date that you are watching the video and the title of the video (letters and numbers ex: VI02 FR02) in the header of the data sheet.
- Watch each video two times.
- During the first run through, watch the video and record the types of questions and strategies used by the volunteer instructors.
- Stop and start video as needed to correctly document the strategy. Plan to watch the video again later that day/on another day. You will need a break from the process!
- For confidentiality, watch the videos in a private area.

### **STEP ONE: WHAT TO WRITE DOWN**

#### **Pre-Reading**

- Does the VI pick up/point to the visual aid and mention its purpose?
- If so, mark the verbal and physical reference to the VA as present or not present.
- Do not record or questions asked prior to the book being opened.

#### **During-Reading**

- You will write down relevant questions used by the VI, how they use the visual aid icons, VI expansions of child responses, and repetitions of child responses. See examples of each below.
- SGEs (character, setting, problem, Fixing the problem, solution) can be mentioned in any order throughout the story.
  - Ideally, we want the VIs to do four things: mention the name of the SGE, definition of the SGE, physically refer to the visual aid (VA), and mention the book specific element.
    - Name = character, setting, problem, fixing problem, solution.
    - Definitions = Character: who the story is about
      - Setting: where the story takes place
      - Problem: what goes wrong in the story
      - Fix the problem: what the character does to try and fix/solve their problem
      - Solution: how the story ends
    - Physical reference means pointing to/holding up the specific SGE icon on the visual aid.
    - Book specific answer is the actual element within the story (ex: ocean, house, park, jungle, etc.).
    - Altogether, the VI might say something like “the character (name) in the story is who the story is about (definition). In this story it is the little mermaid (book specific element) (holds up the character icon – physical reference to the visual aid).
  - Write down questions posed by the VI.
    - DO NOT include:
      - Questions said prior to the book cover open
      - Behavioral questions (can you stop, what should you be doing, can you sit on your bottom, etc.)
      - Questions that occur within the text
      - Unfinished/abandoned questions started by the VI.

- Unintelligible questions
- DO include:
  - All other questions posed that the VI asks related to the story. EXAMPLES ARE LISTED BELOW IN PART 2.
  - Back to back questions
  - Inflectionally based questions (You think so? You think they are lost? That is a big dog, right?).
- **Open-ended WH Questions or Prompts (OE).** These are questions that have a variety of possible responses.
  - Examples are: What will happen next? What are they doing? Why did that happen? How does the character feel? Tell me about what you see on this page.
- **Close-ended WH Questions or Prompts (CE).** These are questions that have one specific answer.
  - Examples are: What is that? Who is this? Which is that? Where is he? What is on his face?
- **Forced-Choice Questions or Prompts (FC).** These are questions where they child is forced to respond a certain way based on how the question is presented.
  - Examples are: Yes/No questions are common forced choice questions (Do you like ice cream? Can he do it? You think he will jump again?). If you are unsure, listen for inflection in the VI's voice. Forced choice can also be when response options are said aloud by the VI (Example: Is it a dog or cat?).
- Write down responses that the VI has to child responses.
  - **Repetitions.** These are when the child's response is said again by the VI word for word.
    - Example: Child says – he is running, VI responds – yes, he is running or he is running.
  - **Expansions.** These are when there is a repetition of the child's original information PLUS new information. Pay careful attention to the responses given to and by the children when coding.
    - Example: Child says – he is running, VI responds – yes, he is running fast down the hill.
  - **SPECIAL CODING.** Often, forced choice questions and expansions happen simultaneously. Code these types of statements as both.
    - For example: child says – he mad, VI responds – you think that he is feeling mad? This is considered both a question and an expansion.
  - DO NOT include:
    - Comments about the books, description, or responses that are not expansions or repetitions (Ex: look at the pictures here. Yeah, I see that too).

#### Post-Reading

- Write down the WH questions used by the VI to review the story.
  - These questions can include either the name or the definition of the target story grammar element icon.
- Write down any expansions used after the WH question is posed to the children.
- Note if the visual aid icons are physically referenced to during the story review.

**Notes on sessions**

- Please write down additional qualitative notes about how the reading went. These notes can include wait time after offered after questions, pacing of reading, small group behaviors, distractions in the hallway, etc.

**STEP TWO: CODE STRATEGIES**

- Walk through the strategies used and code/label them accordingly
- Codes
  - o **SGEs**
    - Place an X next to any reference to the story grammar elements either during pre-, during-, or post-reading strategies.
  - o **Questions**
    - Open-ended WH Questions or Prompts = OE
    - Close-ended WH Questions or Prompts = CE
    - Forced-Choice Questions or Prompts = FC
  - o **Responses**
    - Repetitions
    - Expansions
  - o **Special Coding**
    - Often, forced choice questions and expansions happen simultaneously. Code as Expansion/FC

**STEP THREE: WATCH THE VIDEO FOR A SECOND TIME**

- Pick up on another day/later that day
- Watch the video again.
  - o Double check that you have written down all the strategies that the VI is using.
  - o Double check your coding.
  - o Edit if need be!
- When you have double checked your work, transfer the totals to the main chart page.
  - o Please write down the types of WH questions with the initial word in the open-ended and close ended boxes.

**Remember to record your stop and start times when you are working in the videos 😊**

## Appendix J

### Strategy Review Sheet

#### Pre-reading

1. Refer to purpose of the visual aid physically and verbally (ex: we are going to use these pictures to help us understand the story (while pointing to or holding in the visual aid)).

#### During-reading

2. While reading, point to visual aid and verbally mention story grammar elements (name, definition, book example) as they appear.
  - a. **Character** (ex: Look, I see the Bear on this page. They are the character in the story or who the story is about).
  - b. **Setting** (ex: They are in a house. The setting in our story is a house. That is where the story happens).
  - c. **Problem** (ex: Oh no, he doesn't have any friends. This is a problem, or something that goes wrong in the story).
  - d. **Fixing the problem** (ex: Oh look, he is walking around asking where his cupcakes went. He is trying to do something to fix his problem).
  - e. **Solution or end to the story** (ex: Look, here is our solution or what happened at the end. He was happy with his friends).
3. Ask who, what, when, where, why, and how questions on almost every page.
  - a. (ex: Where are they? What is happening on this page? How does \_\_\_ feel? What will happen next?)
4. When the children answer you, expand their answers by repeating what they say but also add more information (ex: dog → big, stinky dog).

#### Post-reading

5. Use the visual aid to ask the WH review questions (ex: what was the problem in the story?).
6. Expand the children's responses when you can for some extra support (ex: child says, "not share", adult says → "right, the rainbow fish would not share with his friends").